MEMORANDUM

Agenda Item No. 8(L)(3)

TO:	Honorable Chairman Esteban L. Bovo, Jr. and Members, Board of County Commissioners	**DATE:**	July 10, 2018
FROM:	Abigail Price-Williams County Attorney	**SUBJECT:**	Resolution accepting the Southeast Florida Regional Climate Action Plan 2.0 which includes actionable recommendations for regionally coordinated climate change mitigation and adaptation strategies, and efforts in building community resilience

The accompanying resolution was prepared by the Regulatory and Economic Resources Department and placed on the agenda at the request of Prime Sponsor Commissioner Sally A. Heyman and Co-Sponsors Vice Chairwoman Audrey M. Edmonson and Commissioner Rebeca Sosa.

Abigail Price-Williams
County Attorney

APW/lmp

Memorandum

MIAMI-DADE COUNTY

Date: July 10, 2018

To: Honorable Chairman Esteban L. Bovo, Jr.
and Members, Board of County Commissioners

From: Carlos A. Gimenez
Mayor

Subject: Resolution Accepting the Southeast Florida Regional Climate Action Plan 2.0

Recommendation
It is recommended that the Board of County Commissioners (Board) accept the Southeast Florida Regional Climate Action Plan (RCAP) 2.0 (attached as Exhibit A to the Resolution), which is an update to the original Southeast Florida Regional Climate Action Plan, created by the Southeast Florida Regional Climate Change Compact (Compact) and accepted by the Board through Resolution No. R-240-13 on April 2, 2013. Similar to the first Regional Climate Action Plan, RCAP 2.0 includes recommendations for regionally coordinated climate change mitigation and adaptation strategies which are expected to provide long-term cost benefits to the region, through new economic development opportunities and infrastructure planning and improvements that reduce risk and future economic losses. The scope of RCAP 2.0 was expanded to include recommendations associated with regional economic resilience, social equity, and public health.

Scope
The Compact's work encompasses and benefits the entire Southeast Florida region, and as a result, has a countywide impact.

Fiscal Impact/Funding Source
There is no fiscal impact associated with the approval of this plan. Costs associated with implementation of individual projects or initiatives recommended in RCAP 2.0 will be subject to the traditional budget process and require approval by the Board of County Commissioners. Many recommendations in the Plan are low cost or no cost, involving only continued collaboration and leveraging of existing resources and investments.

Track Record/Monitor
The Chief Resilience Officer, James F. Murley in the Office of Resilience, within the Department of Regulatory and Economic Resources, will be responsible for monitoring the RCAP 2.0 and its associated activities.

Background
The RCAP 2.0 updates the Compact's first Regional Climate Action Plan, which was published in late 2012 and has guided much of the regional, county, municipal, and other stakeholder activity around climate adaptation, community resilience, and Greenhouse Gas emissions reduction efforts in Southeast Florida over the last five years. The regional plan is intended to be updated every five years, and RCAP 2.0 was completed on schedule.

The process to revise and update the RCAP took nearly a year of effort over the course of 2017, including extensive review by Compact members, input by stakeholders and the public via a number of in-person and online methods, and subject-matter expert review.

Additional details about the RCAP 2.0 development process are contained in the 2017 Compact Activities Summary (Attachment 1to this Memorandum).

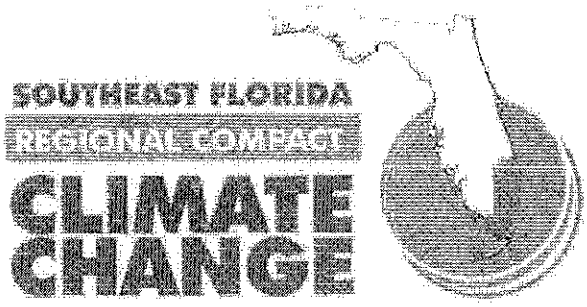
RCAP 2.0 contains 142 recommendations organized into 12 topic areas. Eight topic areas were retained from the first RCAP, and four new topic areas were created, as noted below:

- Agriculture
- Compact Coordination (new)
- Energy and Fuel
- Natural Systems
- Public Health (new)
- Public Outreach and Engagement
- Public Policy Advocacy
- Regional Economic Resilience (new)
- Risk Reduction and Emergency Management
- Social Equity (new)
- Sustainable Communities and Transportation
- Water

To enhance the functionality of RCAP 2.0, an online tool was created which allows anyone to access the RCAP 2.0 recommendations on the Compact website (http://www.southeastfloridaclimatecompact.org/). The recommendations are tagged with keywords and categorical information to allow for different types of stakeholders (e.g., municipalities, state agencies, etc.) working in different fields (e.g., finance, emergency management, etc.) to select recommendations and generate custom lists of relevant recommendations that they are interested in, to create their own individualized climate action plan. The online tool also includes links to additional tools and resources that can inform and facilitate understanding and implementation of the recommendations.

The Regional Climate Action Plan 2.0 does not provide a mandate but rather is designed to serve as a guidance document with options that each county and local government can voluntarily align to their own plans, and adopt and utilize based on their resources, interests, and vision for the future. As with the first RCAP, the Compact partners expect RCAP 2.0 to serve as the main guidance document for climate action in Southeast Florida, allowing effective and efficient coordination of the many public, private, and nonprofit plans, initiatives, and investments in adaptation, resilience, and Greenhouse Gas emissions reduction. To aid in the implementation of RCAP 2.0 over the next five years, the Compact partners, with continued support of the Institute for Sustainable Communities, will organize and offer workshops pertaining to specific recommendations, develop additional educational and technical materials and tools, and seek additional funding and other resources.

Jack Osterholt
Deputy Mayor



Southeast Florida Regional Climate Change Compact
2017 Compact Activities Summary

EXECUTIVE SUMMARY

This year marked the ninth year of successful regional collaboration by Broward, Miami-Dade, Monroe, and Palm Beach Counties under the Southeast Florida Regional Climate Change Compact (the Compact). Throughout 2017, the Compact has made significant progress in implementing regionally-scaled climate policies while deepening the capacity of the metro region to work collectively at a four-county scale. The Compact saw several notable transitions, significant accomplishments on the scope of work, and valuable new initiatives and partnerships.

A major milestone was the development and launch of the second Regional Climate Action Plan (RCAP 2.0), a living document that will serve the region over the next five years. RCAP 2.0 features new focus areas on regional economic resilience, social equity, and public health, which address the need to build community support with civic organizations, the business community, and community-based organizations representing low-income and underserved populations. The development of RCAP 2.0 provided an opportunity to strengthen the Compact's stakeholder engagement process and build on the impressive momentum achieved over the past nine years since inception.

Further progress included increased attention to greenhouse gas emissions reduction as an equal goal to climate adaptation. This came about as the members of the Compact Staff Steering Committee grew to appreciate the limits to local/regional adaptation as climate impacts continue to accrue more quickly than forecasted. This increased attention was reflected within RCAP 2.0 recommendations.

This annual update features policy coordination; the Annual Climate Leadership Summit; technical tools and the Regional Climate Action Plan; and outreach initiatives, recognition, and media coverage of the Compact in 2017.

MAJOR ACCOMPLISHMENTS

Over the past year, the Compact has broadened and deepened the capacity for local climate action in the Southeast Florida region through targeted capacity building, regional initiatives and partnerships, and improved processes and platforms for resource sharing.

In 2017, the Compact undertook a year-long process to refresh the first RCAP, originally published in late 2012, through extensive stakeholder engagement, expert direction, and public input. In response to practitioner feedback, the Institute for Sustainable Communities (ISC) redesigned the RCAP interface

and content to create a platform that better enables a broader range of practitioners to access technical and peer support. The RCAP refresh began with an assessment of the existing RCAP design and recommendations. Stakeholders validated that the basic structure and content of the RCAP has supported local implementation. Improving on the original RCAP premise, RCAP 2.0 enables practitioners and communities to sort the recommendations based on their role and local context (read more about RCAP 2.0 in the Regional Climate Action Plan section below).

Throughout 2017, the Compact piloted and helped to expand the Resilience Dialogues program in Southeast Florida, bringing local and national resources and expertise to three cities in the Compact: Coral Gables, Boynton Beach, and Hallandale Beach. The Resilience Dialogues began as a partnership between the White House Office of Science & Technology Policy and the American Geophysical Union to provide facilitated expertise to White House Climate Action Champion communities (the Compact region was selected as a Champion in 2014). ISC staff served as facilitators between subject-matter experts and city staff on locally-defined challenges, connecting practitioners to Compact resources and tools. After the initial pilot phase, the program expanded to serve a greater number of communities and leverage the expertise of a broader network of nonprofit and academic partners, including ISC, American Society of Adaptation Professionals (ASAP), American Meteorological Society, Meridian Institute, and MIT Climate CoLab. ISC is currently in discussions to bring the Resilience Dialogues opportunity back to Southeast Florida to work with two more municipalities in 2018.

The Compact has catalyzed numerous regional partnerships and facilitated collaboration with the private, academic, and nonprofit sectors to build the region's capacity to meet climate goals.

- *Business Community:* At the Ninth Annual Southeast Florida Climate Leadership Summit, the Compact announced a new collaboration for regional economic resilience in Southeast Florida through a joint statement with key business leaders. This collaboration will be critical for the region to realize shared community goals for climate resilience and prosperity.
- *Academic Community:* The Compact has deepened its partnership with the Florida Climate Institute (FCI), representing a shift in how academia and local government engage on shared goals. FCI is a virtual "center of excellence" that brings faculty together from several disciplines across nine universities in Florida to address pressing climate change issues statewide. The FCI-Compact partnership has provided the Compact with support for local research proposals. It has also enabled access to academic resources for Compact technical capacity building activities and established regional Southeast Florida Climate Indicators. Together, FCI and the Compact are conducting applied research on the current network of institutions working on climate change in Southeast Florida, examining the strength and nature of connections and external communications.
- *Utilities:* The Compact structure has become a local model for collaboration in the region, inspiring the formation of the Resilient Utility Coalition, a regional partnership bringing together utilities, water engineering experts, professional organizations, and academia to develop strategies to advance utility infrastructure resiliency efforts. The Coalition has convened for the past two years and launched its first annual summit in January 2018.

The Compact has seen a steady increase in the number of communities endorsing the Mayors' Climate Action Pledge to support the Compact's regional mission and contribute to its climate goals. Three new municipalities—including Miami, the state's largest city—signed in 2017. Currently, 35 municipalities, over one-third of the 109 municipalities in the region, have signed the Pledge. The Compact launched a set of "Past the Pledge" resources for municipalities to take the first steps of climate action after signing.

Southeast Florida counties and municipalities made bold moves over the past few years to meet the region's climate goals. In late 2017, Monroe County announced the first road elevation project of the most flood-prone road in the Florida Keys, in the wake of Hurricane Irma and recent king tide flooding. Broward County developed a series of future conditions maps and integrated them into the Broward County code of ordinances. These future conditions maps, including sea level rise and flooding projections, are now the new standard of county planning. Miami-Dade County created a Rapid Action Plan that assesses the vulnerability of critical infrastructure, creating an online map tool that shows infrastructure that is vulnerable to stormwater surge and sea level rise. Palm Beach County created a new position several years ago to support its initiatives (first named the Climate Change and Sustainability Coordinator and now called the Chief Resilience Officer) and has actively participated in the federal SolSmart program to streamline and improve permitting processes for solar installations.

POLICY COORDINATION

The Compact continues to build capacity for action at a regional level through standing working groups convened around priority areas. In early 2017, the Shoreline Resilience working group, focused on supporting coastal resilience needs, designed and presented a workshop, Natural Resources Regulations in an Era of Shoreline Change, and partnered with The Nature Conservancy to publish a story map of shoreline resilience efforts that shows the range and evolution of resilience along the Southeast Florida coast. The Compact Policy working group continues to strategize on state and federal policy influencing the region, including an annual exercise to develop legislative priorities for the Compact to coordinate effective engagement. Finally, at its retreat in September 2017, the Staff Steering Committee committed to establishing a greenhouse gas emissions reduction working group, which will begin its work in the second quarter of 2018.

CLIMATE LEADERSHIP SUMMIT

Broward County hosted the Ninth Annual Southeast Florida Climate Leadership Summit on December 14-15, 2017, at the Broward County Convention Center in Fort Lauderdale. The summit focused on "The Business of Resilience" to engage business leadership and the wider community in critical discussions on climate and energy solutions, adaptation, and resilience. The Summit featured keynotes and panels with business leaders; local, state, and federal government officials; and other experts discussing plans to ensure the region not only survives, but thrives, in the face of sea level rise and other climate impacts. The keynote speakers included Dr. Katharine Hayhoe of Texas Tech University, a leading climate researcher and expert communicator; Dow Constantine, the County Executive of King County, Washington; and Congressman Ted Deutch. Congresswoman Debbie Wasserman Schultz also provided comments to open Day 2 of the Summit.

To help guide these plans, the Compact unveiled RCAP 2.0 to the 650 event attendees. ISC's Director of Urban Resilience Steve Adams walked through the new tool, showing the audience various ways they could use the plan to best suit their needs and priorities.

Another highlight of this Summit was the signing of the Joint Statement of Collaboration for Regional Economic Resilience in Southeast Florida by Compact County mayors and commissioners and business leaders. The statement establishes the initial foundation for a partnership among the mayors of the four counties of the Compact and the regional economic development community within Southeast Florida to cooperate on building regional economic resilience by focusing on the considerable benefits of public and private collaboration.

During the 2017 Summit, Miami-Dade County also announced the date and location for the Tenth Annual Climate Leadership Summit, which will celebrate a decade of progress in Miami Beach on October 24-25, 2018.

REGIONAL CLIMATE ACTION PLAN 2.0

Throughout much of 2017, the Compact worked to refresh the first RCAP (published in 2012) by incorporating lessons learned over the past five years of regional implementation and by engaging with citizens, municipalities, and various stakeholder groups in roundtable discussions, workshops, and online surveys. The development process had several phases. In April, the Compact hosted an open comment session that drew more than 75 engaged citizens, government officials, and representatives from nonprofits and businesses. Attendees were encouraged to consider social equity, a new focus area to the RCAP, as they reviewed the draft recommendations and to share their ideas about how equity can be incorporated throughout the plan. The event provided an opportunity for the Compact to learn from these community members and understand their concerns and insights, as well as a forum for community members to engage in one-on-one discussions with local government officials from around the region. Following this public comment session, the Compact sent a draft of RCAP 2.0 to its municipal contacts throughout the region for feedback.

In June, the Compact brought the RCAP 2.0 draft to Catalyst Miami's Third Annual Anti-Poverty Summit. The summit gathered community members and public- and private-sector leaders for strategy sessions focused on identifying equitable, collaborative, and sustainable solutions to the region's most significant challenges, including sea level rise. ISC staffed a Compact table at the event and gathered feedback and comments on RCAP 2.0 from summit attendees, again focusing on ensuring that principles of social equity were considered in all parts of the plan. Compact Staff Steering Committee members and other partners also participated in the South Florida Climate Change Equity Solutions Summit convened by the CLEO Institute and the Center for American Progress. That event sought to generate actionable ideas for inclusion in RCAP 2.0 for reducing the vulnerability of under-resourced communities to the impacts of climate change.

Over the following months, Compact working groups—led by Compact Staff Steering Committee members and made up of almost 200 leaders and representatives from local nonprofits, universities, governments, and utilities—prepared the draft RCAP 2.0 based on the extensive input received from the April session and the Anti-Poverty Summit. This draft was published for another public comment period in October and November. In total, the Compact received more than 300 comments from local residents, public and private subject-matter experts, government officials and staff, and nonprofit organizations on RCAP 2.0. This feedback was indispensable in making RCAP 2.0 relevant to, and reflective of, all stakeholders and communities in the region by improving existing focus areas and informing the creation of four new focus areas: Compact Coordination, Public Health, Regional Economic Resilience, and Social Equity.

The Compact also focused on updating the RCAP platform to make it more accessible and easier to use. Each recommendation within RCAP 2.0 was tagged with keywords and other categorical information to allow for a filtered search. Users can now locate the aspects of the action plan that are most applicable to them. These filters include the practitioner role, type of organization likely to be engaged in implementation, and key focus areas. The easy-to-use online tool allows various stakeholders to build customizable implementation plans based on their roles—a local government staffer, the director of a utility, or a community member—and their priorities. The user can then download their custom plan, to keep it on hand whenever they want to refer to their unique climate action plan. This new tool offers

2,700 possibilities of custom implementation guides for various audiences, interests, and priorities. RCAP 2.0 is also mobile-friendly, allowing Southeast Florida stakeholders to access this tool at any time.

The digital version of RCAP 2.0 also connects case studies and resources directly to the recommendations, giving the user immediate access to a curated library of online resources. RCAP 2.0 also ties recommendations to local agency contacts who have successfully implemented the recommendation. It is also designed to highlight progress for each of the region's 109 municipalities. Each municipality has its own page with basic location information and a list of recommendations it has reported as completed, via implementation surveys conducted by ISC in 2014 and 2016.

Initial response to RCAP 2.0 has been positive. Many stakeholders are encouraged by the openness and collaboration the updated plan and digital tool promote. In an interview with WLRN radio, Nancy Metayer, a climate justice organizer for the New Florida Majority, said, "I believe this [the RCAP 2.0 digital tool] will be useful in being very transparent on how we're dealing with climate issues in South Florida." Overall, RCAP 2.0 is a tool that allows the Compact to engage with specific audiences within the region with greater consistency and context, to help the region pull in one direction, and speak with one voice, when addressing the region's climate challenges.

OUTREACH, RECOGNITION, AND MEDIA

In 2017, the Compact sent out four editions of the Compact Currents, a quarterly newsletter highlighting the progress of the Compact, the counties, and the municipalities in Southeast Florida in their efforts to address climate change and sea level rise. The newsletters are sent out to a list of more than 2,000 subscribers that includes individuals from local government, nonprofits, academia, utilities, media, and general public. The 2017 Compact Currents shared resources, such as webinars and a king tide toolkit; case studies of local municipalities or organizations implementing recommendations from the original RCAP; partner updates, including news about new cities signing the Mayors' Climate Action Pledge; and upcoming public events.

Over the past year, ISC developed its customer relationship management (CRM) and marketing tools. ISC made significant advancements to its Salesforce CRM tool, which allows it to more effectively track with whom the Compact is engaging, when, and on what topic. ISC also switched from the email marketing tool MailChimp to Campaign Monitor, which integrates seamlessly with Salesforce. These two tools working in tandem allow ISC to strategically tailor communications to the Compact contact list of over 2,250 subscribers.

The Compact also expanded its public outreach through the Compact website and Twitter. In 2017, the website received an update, making it more aesthetically appealing and easier to navigate. This refresh included updated navigation, improvements to the Compact event calendar, a more curated section of Compact-specific documents, and an easier way for users to contact us. The Compact events calendar has proven to be an effective tool for communicating with municipalities, stakeholders, as well as others outside the region about upcoming event opportunities. This calendar will support the Compact's upcoming RCAP 2.0 outreach and implementation support, which will feature a combination of workshops, design charrettes, webinars, and policy and planning meetings. The Compact's Press Hub page will also support the Compact's outreach by facilitating communications with local, national, and international members of the media, allowing them easier access to accurate information on resilience work in the region. More than 15,225 new users visited the website in 2017, up from 12,315 in 2016.

MEMORANDUM

(Revised)

TO: Honorable Chairman Esteban L. Bovo, Jr.
and Members, Board of County Commissioners

DATE: July 10, 2018

FROM: Abigail Price-Williams
County Attorney

SUBJECT: Agenda Item No. 8(L)(3)

Please note any items checked.

_____	**"3-Day Rule" for committees applicable if raised**
_____	**6 weeks required between first reading and public hearing**
_____	**4 weeks notification to municipal officials required prior to public hearing**
_____	**Decreases revenues or increases expenditures without balancing budget**
_____	**Budget required**
_____	**Statement of fiscal impact required**
_____	**Statement of social equity required**
_____	**Ordinance creating a new board requires detailed County Mayor's report for public hearing**
_____	**No committee review**
_____	**Applicable legislation requires more than a majority vote (i.e., 2/3's ____, 3/5's ____, unanimous _____) to approve**
_____	**Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required**

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 8(L)(3)
7-10-18

RESOLUTION NO. _____

RESOLUTION ACCEPTING THE SOUTHEAST FLORIDA REGIONAL CLIMATE ACTION PLAN 2.0 WHICH INCLUDES ACTIONABLE RECOMMENDATIONS FOR REGIONALLY COORDINATED CLIMATE CHANGE MITIGATION AND ADAPTATION STRATEGIES, AND EFFORTS IN BUILDING COMMUNITY RESILIENCE

WHEREAS, in 2010 the counties of Miami-Dade, Palm Beach, Broward, and Monroe entered into the Southeast Florida Regional Climate Change Compact in recognition of the need for immediate, coordinated and visionary action to address the impacts of a changing climate and provide for economic and environmental resilience in Southeast Florida; and

WHEREAS, these four counties developed the first Regional Climate Action Plan in accordance with the Compact commitment which was accepted by the Board of County Commissioners on April 2, 2013, with Resolution R-240-13; and

WHEREAS, the Regional Climate Action Plan offers recommendations that provide a common integrated framework for a stronger and more resilient Southeast Florida; and

WHEREAS, The Regional Climate Action Plan is intended to be updated every five years, and the second Regional Climate Action Plan ("RCAP 2.0" or the "Southeast Florida Regional Climate Action Plan 2.0") was completed on schedule; and

WHEREAS, the RCAP 2.0 does not provide a mandate but rather is designed as a living guidance document with options that each county and local government can align to their own plans, and adopt and utilize based on their interests, resources, and vision for the future,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board hereby accepts the Southeast Florid Regional Climate Action Plan 2.0 (attached as Exhibit A), which includes actionable recommendations for regionally coordinated climate change mitigation and adaptation strategies, and efforts in building community resilience.

The foregoing resolution was offered by Commissioner , who moved its adoption. The motion was seconded by Commissioner and upon being put to a vote, the vote was as follows:

Esteban L. Bovo, Jr., Chairman
Audrey M. Edmonson, Vice Chairwoman

Daniella Levine Cava	Jose "Pepe" Diaz
Sally A. Heyman	Eileen Higgins
Barbara J. Jordan	Joe A. Martinez
Jean Monestime	Dennis C. Moss
Rebeca Sosa	Sen. Javier D. Souto
Xavier L. Suarez	

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The Chairperson thereupon declared the resolution duly passed and adopted this 10th day of July, 2018. This resolution shall become effective upon the earlier of (1) 10 days after the date of its adoption unless vetoed by the County Mayor, and if vetoed, shall become effective only upon an override by this Board, or (2) approval by the County Mayor of this Resolution and the filing of this approval with the Clerk of the Board.

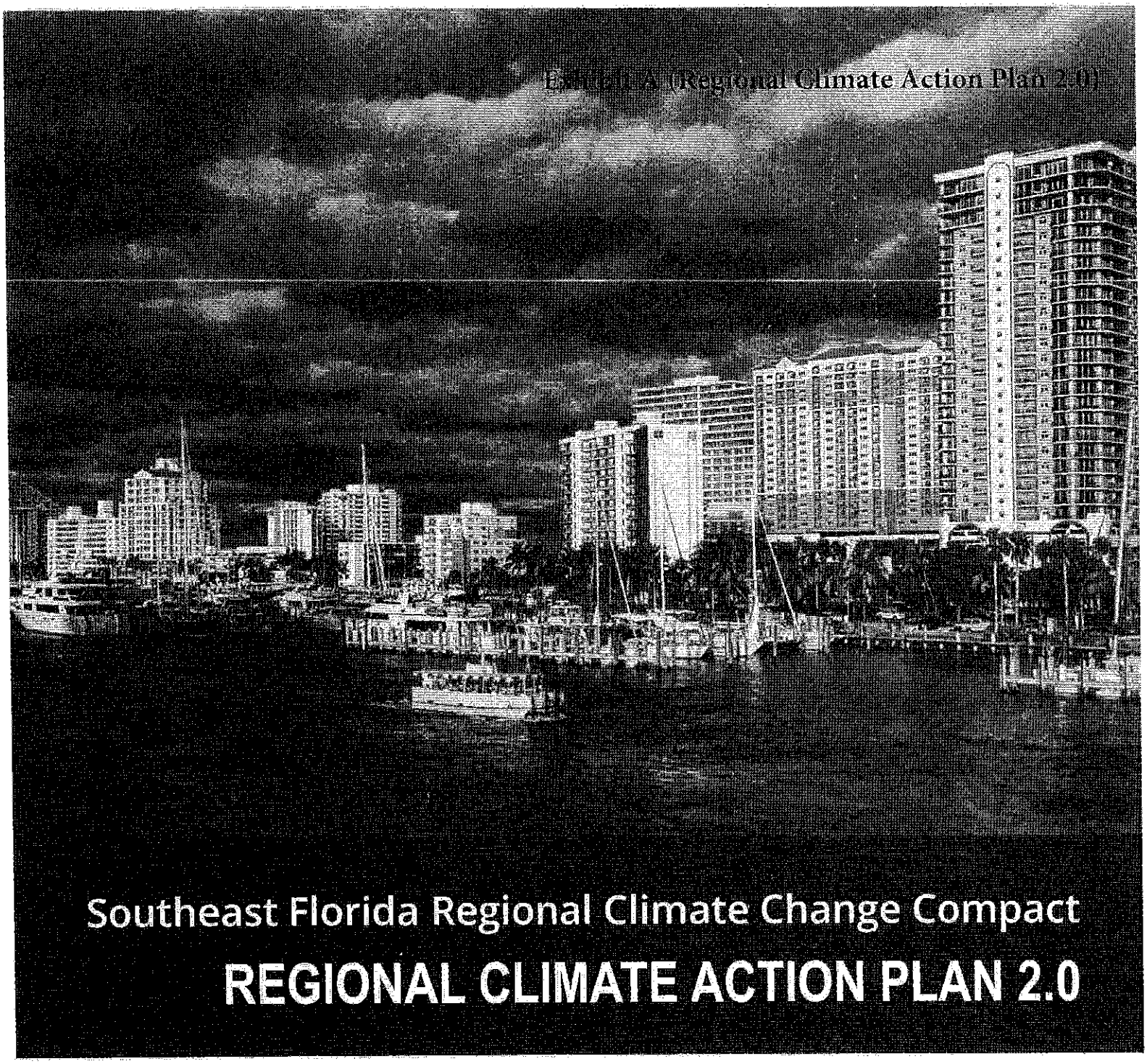
MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By:_____
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency.

Abbie Schwaderer-Raurell



Southeast Florida Regional Climate Change Compact

REGIONAL CLIMATE ACTION PLAN 2.0

SOUTHEAST FLORIDA REGIONAL CLIMATE CHANGE

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39 Social Equity

GOAL: *Guide and support municipalities and counties in the Compact region to create equitable climate policies, programs, and decision-making processes that consider local socio-economic and racial inequities and ensure all can participate and prosper.*

43 Sustainable Communities and Transportation

GOAL: *Adapt to the impacts of climate change and reduce greenhouse gas emissions by reshaping where and how to build and move from place to place.*

56 Water

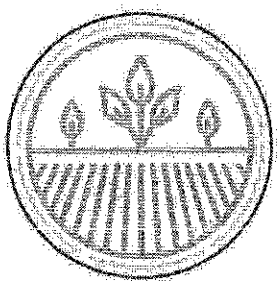
GOAL: *Advance the water management strategies and infrastructure improvements needed, in parallel with existing water conservation efforts, to mitigate the potential adverse impacts of climate change and sea level rise on water supplies, water and wastewater infrastructure, and water management systems, inclusive of regional canal networks, pumps, control structures, and operations.*

Introduction

Welcome to the second Southeast Florida Regional Climate Action Plan (RCAP 2.0). The Southeast Florida Regional Climate Change Compact is a groundbreaking regional effort to foster sustainability and climate resilience at the regional scale, uniting Broward, Miami-Dade, Monroe, and Palm Beach counties. The Regional Climate Action Plan, first created in 2012 with a five-year horizon, is the Compact's guiding tool for coordinated climate action in Southeast Florida to reduce greenhouse gas emissions and build climate resilience. In December 2017, the Compact launched RCAP 2.0, a primarily digital tool with an easy-to-use online interface that enables a broad range of practitioners to access the technical and peer support within RCAP 2.0.

This document features the plan's 12 key focus areas, the 142 recommendations within those focus areas, and information on how to implement these recommendations. An interactive version of RCAP 2.0, along with guidance tools, case studies, and municipality data can be found online at www.RCAP2.org. This online platform enables practitioners and communities to sort through RCAP 2.0 based on their role, local context, and priorities.

Throughout 2017, the Compact managed a year-long process to refresh the Regional Climate Action Plan through extensive stakeholder engagement, expert direction, and public input. RCAP 2.0 responds to the lessons learned over the past five years of regional implementation and the feedback received from government officials and staff, local residents, public and private subject matter experts, and nonprofit organizations—over 300 comments across various public comment periods. This feedback was indispensable in making RCAP 2.0 relevant to, and reflective of, all stakeholders and communities in the region.



Agriculture

GOAL: *Ensure the continued viability of agriculture in Southeast Florida in the face of climate change through policies and actions that encourage sustainable production, remove barriers to production, promote economic incentives, improve water reliability, and promote best management practices.*

Agriculture is consistently one of the three strongest sectors of Florida's economy and serves as a stabilizing contributor to gross state product during cyclical downturns in the other major economic sectors. In 2016, Florida's vegetable production alone generated $1.34 billion in gross sales, the second highest sales in the nation. Florida is the leading state for planted acres and value in tomatoes, snap beans, watermelons, and cucumbers.

Southeast Florida is unlike any other growing area in the nation. A unique set of climate conditions allows for the production of more than 250 different crops, including temperate crops in the winter and tropical and subtropical crops year-round. The region contributes to the food security of the nation by supplying the entire East Coast with winter produce, and there is ample local market potential for common and ethnic crops. The use of local produce also reduces reliance on imported products and increases food security. Properly managed agricultural land may also reduce the urban heat island effect and provide wildlife habitat.

Despite its relative stability, the agriculture sector faces challenges ranging from the constant bombardment of new invasive pests and diseases to frequent and increasingly intense natural disasters. Changes in prevailing rainfall patterns and increasing average temperatures may also adversely affect crop productivity.

These recommendations support the agricultural community's commitment to sustainability and the economic viability of regional agriculture, which will allow farmers to continue to provide food for the region's residents, as well as the nation.

AG-1 Promote policies that preserve the economic viability of agriculture.

Support local land use, zoning, water management, and other policies that help the agriculture sector adapt to and manage climate impacts to agriculture, including:

a) Increased drought
b) Flooding
c) Sea level rise
d) Groundwater salinization
e) Non-native species invasion

Coordinate regional communication supporting the types of international trade policies that maintain the viability of Southeast Florida's agriculture market.

Consider developing Adaptation Action Areas (AAAs) for agricultural projects focused on adaptation (e.g., developing salt tolerant crops and agricultural systems, and converting flood-prone farmland for carbon sequestration).

AG-2 Continue to meet the water needs of agriculture.

Align local water management goals with the Florida Department of Agriculture and Consumer Services' (FDACS) Office of Agricultural Water Policy Strategic Plan.

Consider Southeast Florida's agricultural needs when updating current water management infrastructure in order to maintain high-quality agricultural water supply at a reasonable cost and meet Southeast Florida's irrigation and crop freeze protection needs.

Invest in mutually beneficial and shared infrastructure, such as:

a) Seepage barriers
b) Forward pumps on salinity control structures
c) Water-use census data

AG-3 Promote locally produced foods and goods.

Disseminate and promote existing local and state communication campaigns about the value of locally produced food, including:

a) Fresh From Florida (Florida Department of Agriculture and Consumer Services)
b) Redland Raised (Miami-Dade County)
c) Sustainable Floridians training program (Palm Beach County)

Encourage restaurants and food stores to offer locally grown food.

AG-4 Align research and extension with climate-related needs of agriculture.

Develop processes with extension services for regularly identifying the most pressing climate-related data and research needs for the agriculture industry in Southeast Florida with representatives of different agricultural sectors.

Facilitate sharing of climate-related agriculture research with local farmers and the agriculture industry.

Prioritize academic research and agricultural extension services that align with needs for climate adaptation in Southeast Florida agriculture, including:

a) Monitoring systems
b) Best management practices
c) Climate-smart crops
d) Management systems for agriculture

Promote scholarships and grants to research the impact of climate change on agriculture.

AG-5 Maintain or create agriculture purchase of development rights programs.

Maintain or grow current state and county Purchase of Development Rights (PDR) program funding (also known as Purchase of Agricultural Conservation Easements (PACE)). Funding mechanisms include municipal bonds, state funds, and federal matching funds through the Agricultural Easement Program. Current Florida PDR programs include:

a) Rural and Family Lands Program (Florida Department of Agriculture and Consumer Services)
b) Purchase of Development Rights Program (Miami-Dade County)
c) Agricultural Reserve (Palm Beach County)

AG-6 Assess opportunities for growers and agricultural landowners to manage land to lessen the impacts of climate change and incentivize those actions.

Review and assess current agricultural best management practices (BMPs) for the state of Florida for its management of projected climate impacts.

Integrate climate-smart management practices into BMPs when current rules do not sufficiently prepare for future climate impacts, such as:

a) Carbon sequestration
b) Wind farms
c) Solar collectors
d) Biofuels
e) Pollinator support

Increase funding to cost-share programs that assist farmers in implementing BMPs.

Advocate for increased mandates of BMPs for regions or sectors where assistance funds are available.

AG-7 Seek a national designation for Southeast Florida as a critical source of domestic agricultural products.

Assess potential federal designation avenues that would aid the management of Southeast Florida agricultural lands, such as the Department of Agriculture's Regional Conservation Partnership Program or the Department of Homeland Security's Critical Infrastructure Sectors.

Develop a coordinated strategy with state, county, and local government officials to collectively advocate to state representatives through the Compact Policy Working Group.

AG-8 **Identify and reduce obstacles for enabling urban agriculture, gardening, and other backyard agricultural practices.**

Reduce zoning obstacles for urban agricultural practices, such as vertical and rooftop farming, growing and selling produce, and keeping chickens and/or beehives. Steps to reduce obstacles include:

a) Amending zoning codes to allow for specific agricultural animals in residential districts
b) Establishing a pilot permit program to incrementally increase the number of agricultural animals
c) Explicitly excluding agricultural activities in nuisance laws and aesthetic regulations

Strengthen home-rule powers of municipalities and counties as it relates to agricultural zoning so decisions about community agriculture are localized.

AG-9 **Increase resources for the study and implementation of invasive, non-native pest and pathogen prevention; early detection; and rapid response.**

Identify current invasive and non-native pests and pathogens threatening the agriculture sector, and review the projected risk exacerbated by climate change.

Prioritize the detection and response needed by the projected risk, and develop public-private research plans with farmers, universities, and local governments.

Track and collectively seek state and federal funding opportunities for research of non-native pest and pathogen prevention, based on the documented risk to the local agricultural economy.

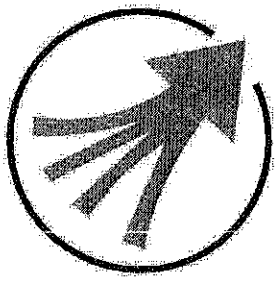
AG-10 **Promote sustainable aquaculture, perennial crops, diversified farming systems, precision agriculture, and re-contouring field elevations.**

Create education and incentive programs to encourage sustainable food production techniques that preserve soil and water quality.

AG-11 **Assess and address public health risks of more frequent and intense high-heat days to agriculture and farm workers.**

Work with agricultural industry and public health professionals to identify and quantify risks associated with increasing heat.

Develop and promote heat-stress minimization practices.



Compact Coordination

GOAL: *Strengthen coordination and collaboration in Southeast Florida on climate change issues by building the capacity of the Compact to meet evolving regional needs.*

The Compact's experience in Southeast Florida since 2009 has shown the power of regional coordination and collaboration in advancing climate change action. The Compact serves as a vehicle that enables municipalities, counties, regional agencies, and other key actors to take coordinated action at the regional scale, producing a whole that is greater than the sum of its parts.

In implementing the first Regional Climate Action Plan (2012-2017), the Compact learned how to coordinate actions regionally in ways that bolster the important efforts of county government and individual municipalities. Regional agencies, county governments, and municipal governments are the entities that do the hard work of implementing the RCAP recommendations. The Compact's regional role is to develop regionally consistent science and planning assumptions for local use; create resources to build the capacity of local governments to best implement climate action; identify and address issues that require coordination across individual jurisdictions; and coordinate consistent communications to state and federal government, the general public, and audiences outside of Southeast Florida.

In developing RCAP 2.0, the Compact partners recognized the need to highlight the regional coordination priorities for the duration of RCAP 2.0. These recommendations articulate parts of the Compact's agenda through 2022, focusing on the key functions of the Compact outlined in its formative agreement among the four counties.

CC-1 Establish and implement a regional communications strategy among business, government, and community leadership.

Partner with business, government, and community leadership to define communications priorities and develop a coordinated communications strategy designed to educate and engage the entire community on climate challenges and regional needs as an economic imperative and opportunity.

Develop and promote a well-curated online library of regionally consistent, rigorous, and multilingual communications resources for use by local governments, associations, and other stakeholders.

CC-2 Update regional unified sea level rise projections.

Convene the ad hoc sea level rise working group at least every five years to review and update the Southeast Florida unified sea level rise projections and other established unified projections in accordance with the latest peer-reviewed science.

CC-3 Explore opportunities to better coordinate cross-agency and cross-jurisdiction reviews of major infrastructure projects.

Review and assess current infrastructure project identification, design, and approval processes across agencies and jurisdictions in Southeast Florida municipalities, counties, and regional and state agencies.

Evaluate the efficacy and efficiency of alternative project processes that coordinate across agencies and jurisdictions.

CC-4 Continue to provide high-quality implementation support resources for jurisdictions seeking to implement the Regional Climate Action Plan and other sustainability and resilience measures.

Work with experts and local leaders to identify successful and innovative resilience practices, and curate the best resources to aid Southeast Florida counties, municipalities, and other jurisdictions to implement RCAP recommendations.

Disseminate implementation resources through the RCAP.

Update resources regularly to capture new innovations and lessons learned from local implementation.

CC-5 Develop and track regional indicators of climate change impacts, emissions reduction, and adaptation action.

Develop processes for refining regional climate and community indicators based on local, state, and federally produced data.

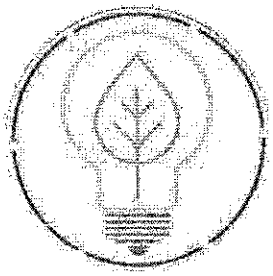
Gather existing up-to-date data that contributes to the regional climate indicators to share on the Southeast Florida Regional Climate Change Compact website.

Develop and manage a process for tracking RCAP implementation across the region.

CC-6 Create a Compact advisory group composed of organizations that represent the region's climate work, equitable community development, and vulnerable populations in order to track and share best practices on equitable climate action with the region.

Convene leaders of organizations that work on equitable development and represent vulnerable populations in a resilience advisory group.

Continually gather and share examples of equitable climate policy and process applicable to the regional context. Use existing platforms, such as the online RCAP, to disseminate policy examples to local governments.



Energy and Fuel

GOAL: *Reduce consumption of electricity and fuel and increase renewable energy capacity to increase regional resilience, reduce greenhouse gas emissions, and improve emergency management and disaster recovery.*

The Paris Agreement codified an international effort to limit global warming to 1.5 degrees Celsius. This warming limit is widely recognized as critical to human health, safety, food security, water supply, coral reef health, and the ability to manage adaptive capacity for climate impacts. Like many local and state governments across the United States, Southeast Florida governments seek to provide leadership in addressing the root causes of global climate change by reducing greenhouse gas emissions consistent with the ambitious goals of the Paris Agreement.

The vast majority of the energy consumed in Southeast Florida is used to fuel vehicles and generate electricity for buildings. Reducing regional emissions can serve to build the resilience of energy systems during storms and other natural disasters, and efficiency and conservation are the most accessible and cost-effective ways to reduce energy consumption.

These recommendations address efficiency and conservation strategies and encourage the use of renewable energy. They call for public-private partnerships and addressing barriers, including regulatory processes, that currently prevent the broad application of these technologies. The recommendations are comprehensive, ranging from setting goals and increasing renewable energy capacity to establishing a framework to deliver finance options.

EF-1 Promote renewable energy through policies and technological development in order to reduce greenhouse gas (GHG) emissions.

Develop local GHG emissions reduction targets through climate action plans aligned with regional priorities.

Set percent renewable energy targets that align with regional and local GHG emissions reduction targets.

Partner with academic institutions, such as Florida International University, the University of Miami, and the Florida Climate Institute, to invest in research and development of new renewable energy technologies, such as biodiesel production from algae.

EF-2 Advance energy efficiency and conservation through technological solutions, behavioral strategies, and policies in order to reduce greenhouse gas (GHG) emissions.

Set local energy efficiency building standards that align with regional and local GHG emissions reduction targets.

Partner with local government and other stakeholders to assess the efficiency of the Florida Energy Code and define the responsibilities of each trade to improve compliance and enforcement.

Review and share action examples for local governments and regional agencies for energy efficiency financing strategies, including changes to local ordinances, incentives, and education.

Support and advocate for utilities to develop competitive rates for efficient lighting and energy efficiency retrofits.

Develop policies to regularly audit, benchmark, and/or retro-commission government and private buildings.

EF-3 Increase accessibility to energy efficiency solutions for limited-income families.

Create local incentive or loan programs for energy efficiency technologies or building retrofits.

Prioritize or create energy efficiency programs for limited-income residents and communities that reduce upfront costs.

Develop legal mechanisms for renters and landlords to share the upfront costs and benefits of energy efficiency and weatherization investments.

Establish rental weatherization programs to ensure weatherization standards for rental units.

EF-4 Increase accessibility to distributed renewable energy technology.

Expand renewable energy purchasing options by investing in community solar and energy co-ops.

Advocate for state laws and programs that expand all opportunities for solar energy deployment statewide.

Seek alternative funding sources for expanding renewable energy purchasing options, including:

a) Regional collaboration on grant opportunities
b) Public-private partnerships

Identify and expand incentives for businesses that research and bring to market distributed energy technologies.

EF-5 **Utilize renewable and distributed energy technologies for emergency management and disaster recovery.**

Partner with Florida Power & Light and other electric providers to pilot distributed solar energy at hurricane shelters or government operations centers for disaster recovery and emergency management.

Support and advocate for Florida Power & Light to develop energy security models for solar and batteries during disaster recovery.

Partner with public and private entities to install solar demo projects on public sites and/or buildings that will support solar market development (financially and operationally) and displace significant building energy use and/or partially or fully operate certain facilities. Demo projects should consider including battery storage for emergency situations and increase overall resilience of the site or building.

EF-6 **Streamline permitting and administrative processes to reduce the soft costs associated with renewable energy technologies.**

Reform permitting processes in order to reduce fees, make rules clear and readily available, expedite the permitting process, and make inspections convenient for property owners.

Promote and incentivize the state-wide adoption of the GOSolar Florida Model Zoning Ordinance and permitting platform developed by the GOSolar Florida consortium.

Adjust zoning policies to better accommodate energy efficient practices and renewable energy.

EF-7 **Establish financing mechanisms for current homeowners to invest in renewable energy and energy efficiency.**

Adopt a Property Assessed Clean Energy (PACE) program

EF-8 **Build the capacity for distributed renewable energy and energy storage technologies in future building stock.**

Install solar panels on public buildings and encourage local governments to promote solar energy by installing solar panels and signing solar power purchase agreements for public buildings.

Develop policies requiring new properties to be solar ready or include a minimum amount of solar energy production per property.

Develop green building policies.

EF-9 Enable grid-independent energy and waste-to-energy systems.

Evaluate existing land development regulations and development standards on the capacity for installation and use of energy-efficient and small-scale distributed renewable and modular waste-to-energy systems that are grid independent.

Consult with the wider development community and revise existing land development regulations that act as a barrier.

EF-10 Enable a fuel-efficient public vehicle fleet.

Develop policies to establish infrastructure that complements transit-oriented corridors, including preferred and/or reduced parking fees for riders accessing transit facilities by electric or other renewable fuel vehicles. Explore funding sources for transit-oriented corridor infrastructure improvements.

Establish and enforce local anti-idling policies.

Encourage and incentivize the use of renewable fuels in community vehicle fleets.

EF-11 Establish a fuel-efficient municipal vehicle fleet.

Encourage government fleets to maximize miles per gallon (MPG) fuel efficiency for all non-specialty vehicle procurement.

Develop a vehicle procurement process that ensures city- and county-owned vehicles increase their MPG by 5% annually per vehicle class whenever higher MPG vehicles are available. Use sources such as the Environmental Protection Agency's Green Vehicle Guide as a procurement guide and include the cost of carbon emissions in the life-cycle cost analysis process.

Encourage transit agencies to reduce greenhouse gas emissions by procuring renewable fuel and electric buses.

EF-12 Promote community use of electric vehicles (EV).

Designate solar charging with battery storage and other renewable options as a priority to maximize emissions-reduction benefits and improve the community's emergency preparedness and resilience for disaster recovery during power grid outages.

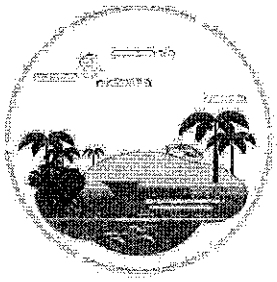
Develop solar carports and fast charging, and consider cogeneration as a second energy source.

Identify and expand EV charging infrastructure, including supporting a regional framework for locating public EV charging stations and expanding EV opportunities at multifamily buildings, workplaces, and commercial and retail centers.

Designate solar charging and other renewable options as a priority to maximize emissions-reduction benefits and improve the community's emergency management preparedness in times of power outages.

Require new properties to have EV-ready electrical infrastructure and dedicate a minimum amount of parking spaces to EV parking.

Support regional efforts to establish a framework for locating public EV charging stations.



Natural Systems

GOAL: *Implement monitoring, management, and conservation programs designed to protect natural systems and the services they provide to society while improving their capacity for climate adaptation.*

Southeast Florida's native species and natural areas depend upon specific temperature, water, and salinity conditions. Coral reefs and seagrass meadows grow in clear, shallow seawater with abundant sunlight and stable temperatures, while mangroves thrive in brackish areas between the low- and high-tide lines. Freshwater-dependent hardwood hammocks and pine rockland forests support an abundance and diversity of rare plants and animals unique to the region. The Everglades' wetlands and tree islands depend on seasonal rainfall patterns that have existed for centuries. Climate change threatens many of these natural assets, which are important not only for their inherent biological values, but for the many cultural, health, and economic benefits they provide to society.

These "ecosystem services," such as the absorption of flood waters and drinking water aquifer recharge provided by freshwater wetlands and forests, are essential elements of Southeast Florida's economic success and local quality of life. Coral reefs and mangroves are vital to commercial and recreational fisheries, as well as the dive tourism industry—they also serve as the front lines of defense against storm-driven flooding and erosion. Beaches and dunes also protect the coast while providing a key attraction for millions of visitors.

As the sea rises and rainfall patterns change, these natural systems may not be able to persist in their current locations. People must ensure that there is a place for natural systems, the species they support, and the services they provide. Thoughtful land-use planning and land acquisition programs can help ensure species and habitats can adapt, migrate, or transition.

The following strategies recommend ways for all levels of government to maintain natural areas, rare and endangered native species populations, ecosystem services, and the nature-dependent industries that underpin the region's economy.

NS-1 Foster public awareness of the impacts of climate change on the region's natural systems and ecosystem services.

Conduct public opinion research of various stakeholders' values to effectively communicate how they will be affected by climate change (e.g., impacts on natural systems that could create problems for health, wellness, and outdoor recreation).

Develop local communications strategies around climate impacts on ecological sites that have community recognition or significance.

Develop and share regional communication materials about the regional ecosystem services affected by climate change. Flexible materials could include:

a) Webinars
b) Presentations
b) Flyers

Partner with local governments, NGOs, universities, libraries, faith-based organizations, and community groups to disseminate local and regional natural systems messages.

NS-2 Promote collaborative federal, state, and local government conservation land acquisition and easement programs.

Promote and advocate for sufficient funding of the Florida Forever conservation land acquisition program.

Partner with local state legislators to file state bills for individual land acquisition projects under the Florida Forever program to show the demand for the program's land acquisition funding.

Connect local land conservation initiatives with potential federal funding programs based on specific ecosystem characteristics. Potential federal land conservation programs include:

a) Land and Water Conservation Fund (National Park Service, U.S. Fish and Wildlife Service)
b) Cooperative Endangered Species Fund (U.S. Fish and Wildlife Service)
c) Forest Legacy Program (U.S. Forest Service)
d) Agricultural Conservation Easement Program (U.S. Department of Agriculture)

NS-3 Support regional wildland fire management coordination efforts.

Integrate projected climate impacts on wildland fires into fire management strategies. Fire management practices may need to address:

a) Increased availability of fuel from increased undergrowth
b) Altered wildfire or prescribed burning seasons

Support ecological adaptation measures that facilitate better fire management. Adaptation measures critical to managing fires based on climate impacts include:

a) Increasing landscape diversity
b) Increasing biological diversity
c) Maintaining and preserving watersheds

NS-4 Develop sustainable financing for the monitoring, protection, restoration, and management of natural areas and ecosystem services.

Conduct a scan of existing financing mechanisms that provide loans for projects that promote the preservation of natural capital, such as the European Investment Bank's Natural Capital Financing Facility.

Assess the feasibility of implementing natural capital financing through current local financing institutions in Southeast Florida (e.g., state and county government, and local and national banks).

Develop cost-benefit analyses of investments into natural systems, traditional infrastructure, and hybrid green/gray approaches.

NS-5 Identify or create a regional group to coordinate a plan to create adaptation corridors, living collections, and other approaches to species dispersal and conservation.

Convene representatives of current biodiversity and land conservation programs across Southeast Florida.

Review and align all current plans to encourage species dispersal and biodiversity, prioritizing the sites and measures of greatest regional importance.

Engage local communities in helping to implement coordinated land biodiversity measures through current citizen-driven programs, such as the Florida-Friendly Landscaping program and the Florida Yards & Neighborhoods Homeowner program.

NS-6 Conduct a predictive assessment of current and potential invasive species ranges and impacts.

Support the current University of Florida Institute of Food and Agricultural Sciences Assessment of Non-Native Plants in Florida's Natural Areas by providing expertise and financial support.

Determine potential invasive species' ranges and impacts on biodiversity and society through partnerships between universities and local government agencies.

NS-7 Promote the protection and restoration of coastal natural systems and the creation of living shorelines at the regional scale.

Identify specific locations and general conditions that could utilize living shorelines in place of, or in combination with, seawalls.

Write regulations encouraging the use or integration of living shorelines where feasible.

NS-8 Support coral reef protection, restoration, and sustainable-use initiatives to help Florida's sensitive reefs adapt to the changing climate and ocean acidification.

Develop or promote programs encouraging behavior that mitigates negative human impacts on coral reefs. Programs that would directly and indirectly support coral reef conservation and growth include:

a) Greenhouse gas emissions reduction and renewable energy
b) Water quality protection
c) Investment in reef-friendly businesses
d) Responsible boating, snorkeling, and diving practices
e) Sustainable, low-impact fishing practices

Develop or enforce local regulations that reduce negative human impacts on coral reefs. Regulations that impact coral reefs would:

a) Reduce pollution and runoff
b) Reduce the use of pesticides and lawn fertilizers
c) Dispose of trash properly

NS-9 **Advocate for federal and state funding for applied monitoring and climate-related science, conducted in partnership with the Florida Climate Institute.**

Develop a regional climate monitoring strategy in partnership with the Florida Climate Institute (FCI) and local government representatives that reflects local planning needs and current research capabilities through the existing FCI and Compact partnership.

Advocate jointly for federal and state funding for the collaborative climate monitoring strategy through the Compact Policy Working Group.

Identify applicable grant opportunities and jointly apply for funding to support climate monitoring strategies.

NS-10 **Examine and propose revisions to environmental regulations to account for the effects of climate change.**

Scan current environmental regulations and assess policy strength to adapt to or prevent projected climate impacts. Climate impacts to be considered in current environmental regulations include:

a) Higher temperatures
b) Drought
c) Extreme rain events
d) Increased storm surge
e) Saltwater intrusion
f) Sea level rise

Propose revisions to environmental regulations that do not consider climate projections.

NS-11 **Identify the effects of climate change on fish populations, the sustainability of key fisheries, and the fishing industry, then develop adaptation plans as needed.**

Review and analyze current research to develop a vulnerability assessment of the projected climate impacts on the Southeast Florida fishing industry.

Convene stakeholders in the fishing industry, marine research, coastal management, and local government to develop adaptation plans for the regional economy, including adaptation measures for county and municipal level jurisdictions.

NS-12 Promote the protection, restoration, and creation of freshwater wetlands, open space buffer areas, and connectivity between freshwater and estuarine waters.

Adopt or develop local wetland maps for planning, regulation, and zoning purposes. Existing wetland maps can be accessed through the National Wetland Inventory and federal or state agencies.

Develop a formal "wetland" or "conservation" zone designation for all zoning maps that includes freshwater wetlands, buffer areas, and critical freshwater connective areas.

Promote or create regulations for allowable and prohibited use of critical zoning areas.

Adopt local real estate tax incentives for protecting and conserving local wetland zones.

Acquire conservation easements or conservation land acquisition for critical wetland zones.

NS-13 Develop and implement long-term, sustainable, regional solutions to beach erosion and sediment supply.

Align local and regional beach erosion prevention efforts with Florida's Department of Environmental Protection's Strategic Beach Management Plan (SBMP) for the Southeast Atlantic Coast Region.

NS-14 Maintain, create, and/or restore urban tree canopy.

Ensure current tree planting and shade tree canopy programs establish native tree species over non-native species.

Identify and invest in salt-tolerant tree species that can withstand hurricanes and provide multiple ecosystem services, such as habitat for other native species.

Prioritize planting efforts in low-income areas and communities of color where the existing tree canopy is disproportionately sparse.

NS-15 Support and advocate for continued implementation and funding on the state and federal levels for the Comprehensive Everglades Restoration Plan.

Continue to provide political and financial support to the Comprehensive Everglades Restoration Plan (CERP) and its updated version, which are fundamental to Everglades restoration.

Contribute to the ongoing implementation of the CERP and updates to the implementation plans (such as the Integrated Delivery Schedule) through the South Florida Ecosystem Restoration Task Force and relevant working groups.

Public Health

GOAL: *Build capacity to proactively mitigate climate-related public health risks in Southeast Florida.*

Protecting the health and welfare of residents is a fundamental role for every level of government and the cornerstone for assuring the current and future prosperity of any community. Healthy people underpin economic productivity, student achievement, and the vitality of community life that matter most to residents. The delivery of health services in Southeast Florida is accomplished by a network of providers including county public health departments, public hospitals, and a vast array of private-sector providers operating in a variety of settings ranging from community-based clinics to hospitals and major research facilities.

Global climate change brings new public health risks to the table and exacerbates existing risks that public health providers have been working to mitigate for decades. Rising average temperatures increase the risk of heat-related illness (e.g., heat exhaustion and heat stroke) for those working outdoors or without access to air conditioning, and may worsen chronic conditions, including asthma and diabetes. Floodwaters, whether from coastal king tides worsened by sea level rise or from inland flooding exacerbated by heavier rainfall events, can carry pathogens and increase breeding habitat for mosquitoes, which in turn present health risks. Changing climate conditions and increasing travel and migration are also creating pathways for vector-borne diseases, including the 2016 appearance of Zika in Southeast Florida, which heightened public health concerns in the region.

The addition of this section to the RCAP reflects the growing recognition of the linkages between climate change, building regional resilience, and the need for focused attention on these issues. These recommendations encourage proactive efforts to build resilience into local and regional public health systems.

PH-1 Understand and communicate public health risks associated with climate change.

Develop communications material about the human health risks of climate change, including increased risks for heat illness, vector-borne disease, and floodwater pathogens.

Ensure communication materials and methods are accessible. Communicate in different languages, including American Sign Language, and use traditional and social media as appropriate to engage with communities.

PH-2 Adopt and update all Florida Department of Health plans to reflect climate and sea level rise impacts on public health.

Review existing Department of Health plans and programs and assess capabilities to handle projected climate impacts on human health, including:

a) Flooding
b) Extreme heat
c) Vector-borne disease
d) Travel-related transmission

Integrate climate change considerations into existing program review processes.

PH-3 Adapt federal and state public health resources to support specific community needs.

Review and apply tools and resources developed by federal agencies within a given jurisdiction, including resources from:

a) Centers for Disease Control and Prevention
b) National Institutes of Health
c) The Environmental Protection Agency
d) The Florida Department of Health
e) Other state and local health agencies

PH-4 Reduce extreme heat exposure to promote public health.

Increase the urban tree canopy to reduce extreme heat and provide shade.

Reduce the urban heat island effect by encouraging and/or requiring highly reflective paving and roofing materials and/or increasing vegetation on buildings.

Work with community groups–especially in high-vulnerability communities–to determine the current risk of indoor heat exposure by identifying households with inadequate air conditioning or at risk of not paying utility payments.

Reduce the risk of indoor heat exposure by assessing current public and private emergency utility assistance funds and supplementing funds as needed. Promote and expand programs that reduce long-term need, such as weatherization assistance.

Ensure the availability of, and access to, public cooling centers.

PH-5 **Advocate for policy changes and funding for local health departments to collect data more frequently to influence public health plans.**

Partner with public health departments and universities to define the current gap in public health and climate change research timeframes, and articulate the value to planning of more frequent data collection.

Emphasize the utility of research based on frequent data collection to current public and academic climate impact and health research programs. Specifically advocate for association testing with monthly weather patterns, such as changes in:

a) Water levels
b) Rainfall
c) Temperature
d) Relationships with socio-economic vulnerability

Include considerations of data collection frequency when allocating public funding to research in order to ensure the applicability of the research to public health initiatives.

PH-6 **Increase reporting of health data monitoring systems to evaluate emerging diseases related to climate change.**

Identify the human diseases exacerbated or spread by climate change, either directly or indirectly from impacts on water quality and lower drainage capacity.

Identify the currently collected health data that would be indicators of emerging diseases associated with climate change impacts, and current gaps in health data that would support the monitoring of climate change health impacts.

Support consistent and future monitoring of identified indicators of health risks to ensure timely public health responses.

Utilize Florida Climate Institute research on public health.

Study the public health impacts of floodwater to inform the discussion and decision-making on stormwater policy, including policies related to king tides.

PH-7 Develop tools to assess the impacts of climate change and sea level rise on existing chronic conditions and to report trends or concerns for action.

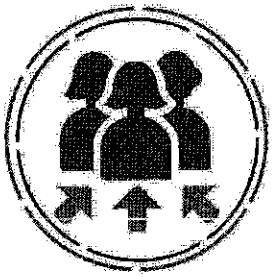
Identify the existing and missing data collection and reporting (both granular and geographic) needed to make health outcome projections about the exacerbating effects climate change has on existing health risks, including:

a) Exposure to mold-related infectious disease
b) Chronic conditions, such as asthma
c) Exposure to contaminated water supplies
d) Occurrence of flooding-related injury
e) Mental health issues related to property damage and displacement

Invest in critical gaps in data collection and reporting about the exacerbating effects climate change has on existing health risks.

Develop regional assessment tools that tie climate projections to potential future public health risks.

Engage the local public health workforce in the development of climate-related policies to ensure the policies consider health.



Public Outreach and Engagement

GOAL: *Build public awareness of the climate-related risks facing Southeast Florida and the opportunities for early, coordinated action to address these risks.*

Climate change is already affecting Southeast Florida's communities, and the best available science indicates these impacts will likely continue to accrue. In order to protect property, health, and the regional economy, local governments across the region are taking action, and are engaging their residents in ongoing conversations about these actions. By working with residents to identify hazards and vulnerabilities, set priorities for needed infrastructure improvements, and design projects that will change the texture of neighborhoods, local governments can ensure they are meeting their public trust responsibilities in ways that align with the values of residents for the places where they live, work, and play.

The following recommendations outline several outreach and engagement strategies that local governments can use to responsibly inform all of their residents of the challenges that exist within their communities, better understand the diverse perspectives of residents, and devise public policy responses that incorporate solutions to fully meet community needs for all.

PO-1 **Assess community needs to guide local government communications.**

Gather input from non-governmental representative organizations such as advocacy organizations, academic institutions, professional associations, and faith-based organizations on effective messages for different audiences.

PO-2 **Promote public awareness and understanding of climate impacts, as well as the personal actions and public policy options available to respond to climate change.**

Utilize regionally coordinated communications resources.

Develop localized climate communications using best practices in the field.

Measure the impact of the communication methods.

Share relevant resources regionally through the Compact.

PO-3 Inspire community action to address the causes and impacts of climate change.

Develop and promote avenues for collective community action and individual behavior change for residents to address the causes of climate change.

Partner with local representative organizations such as advocacy organizations, academic institutions, professional associations, and faith-based organizations to design and deploy communication projects that target diverse audiences.

Utilize visual arts, signage, installations, and participatory events to creatively communicate to residents and visitors the localized impacts of climate change and avenues for community action.

Create public outreach messages in a mixture of media, including non-written forms such as verbal videos or graphic signage.

PO-4 Create open data platforms and digital tools.

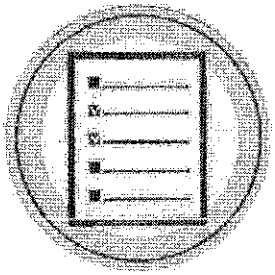
Report data sets produced by federal, state, and local government; academic research; and community-based participatory research to the Compact to be shared regionally.

Encourage third parties to build digital tools using currently reported, shared, open data that communicates adaptation efforts, mitigation goals, and community and environmental trends, and enables community-based participatory research.

PO-5 Create culturally- and linguistically-appropriate information gathering tools and strategies to help inform decision-makers of the priorities and concerns in communities.

Work with leadership in high-vulnerability communities to co-create outreach strategies and engagement tools that reflect the culture of the community.

Publish major communications in the languages that represent the local demographics, and specifically include the languages of high-vulnerability communities.



Public Policy Advocacy

GOAL: *Guide and influence all levels of government to address climate change in relevant policies, programs, and legislation.*

Local governments working independently or collectively have many policy options available to spur emission reductions and to build resilience, but state and federal levels of government hold key responsibilities and powers. Beyond having legal and regulatory roles for addressing climate change, state and federal agencies own, operate, and are responsible for the ongoing maintenance of critical infrastructure in Southeast Florida. In order to ensure the region's voice is heard in Tallahassee and Washington, D.C., Compact partners work together in coordinated advocacy around energy and climate issues. The Compact's shared advocacy efforts—whether state or federal, legislative or regulatory—are approved by respective Boards of County Commissioners.

Advocacy at the state and federal levels is one of the fundamental functions that led to the creation of the Compact; more clauses within the original Compact resolution are dedicated to joint advocacy than any other purpose. The Compact region is represented by nine congressional districts in the United States House of Representatives, 13 districts in the Florida Senate, and 35 districts in the Florida House of Representatives. The Compact seeks to work with elected representatives at the state and federal levels in a bipartisan fashion to advance the region's positions on key legislative issues, budget priorities, and regulatory matters of importance to Southeast Florida.

These recommendations outline the Compact's shared advocacy role. While individual issues will change from year to year, the Compact partners remain firmly committed to working together to raise their voices in unison for the good of the region.

PP-1 **Support—at all levels of government—policy, legislation, and funding to reduce greenhouse gas emissions in all sectors, use less energy and water, deploy renewable energy and low-carbon transportation, prepare for and adapt to climate impacts, build community resilience, and study climate and earth science.**

Integrate the Regional Climate Action Plan (RCAP) objectives in all planning and policies developed by local governments and agencies. Focus efforts on specific recommendations that require a policy or policy process change.

Advocate for state and federal policy changes that aid local climate work, as outlined in RCAP recommendations. Coordinate and develop regional advocacy through the Compact Policy Working Group (see recommendation PP-2).

PP-2 **Develop common positions on climate, energy, and resilience issues, and advocate jointly as the Compact for those positions before state and federal legislatures, regulatory bodies, and the executive and judicial branches of government.**

Continue developing joint federal and state climate, energy, and resilience legislative programs to guide united advocacy by the Compact in Tallahassee and Washington.

Consider intervening as a party in Florida Public Service Commission proceedings relevant to the Compact region.

Support the continued incorporation of climate-related policies and programs in state and federal infrastructure funding programs.

Support and advocate for full state and federal funding of the Comprehensive Everglades Restoration Plan and related Everglades restoration projects in recognition of the crucial role a restored Everglades ecosystem will play in protecting Southeast Florida's water supply.

Support the defense and maintenance of strong federal policies and programs to reduce greenhouse gas (GHG) emissions, adapt to climate impacts, and build community resilience.

Support the development of strong state policies and programs to reduce GHG emissions, adapt to climate impacts, and build community resilience.

Support continued U.S. participation in global climate accords and continued action to meet national goals under global agreements.

PP-3 **Urge federal, state, regional, and local partners to prioritize climate change considerations in the planning, construction, and operation of the regional water management and flood control system.**

Set up a regional water management and flood working group to facilitate climate considerations.

Engage with regional partners such as the U.S. Army Corps of Engineers and the South Florida Water Management District.

PP-4 **Participate in coalitions of public-, private-, nonprofit-, and/or academic-sector actors dedicated to climate, energy, and resilience issues.**

Gather and share information on the landscape of public, private, and nonprofit organizations currently working on climate and resilience issues in Southeast Florida.

Facilitate collaborative coalitions to tackle regional challenges that cross sectors and jurisdictions.

PP-5 **Coordinate climate, energy, and resilience policies among counties, municipalities, school districts, and other units of government in the region.**

Share information about effective climate policies and implementation successes among counties, municipalities, school districts, and other units of government through platforms like the Regional Climate Action Plan.

Adopt regional tools and policy commitments, such as the Compact Unified Sea Level Rise Projection and the Mayors' Climate Action Pledge.

Foster collaboration among elected officials and local government staff.

Collaborate to pursue external funding and technical assistance that align approaches and outcomes to climate and resilience across the region.

Train staff on climate issues.

PP-6 **Prioritize climate policies that advance social and economic equity for high-vulnerability populations and limited-income residents.**

Identify the factors that can impact social and economic equity locally.

Create climate policies supporting infrastructure that mitigates those factors. See recommendation EQ-9 for further information. Factors to consider include:

a) Public transportation
b) Energy efficiency
c) Affordable housing
d) Green space

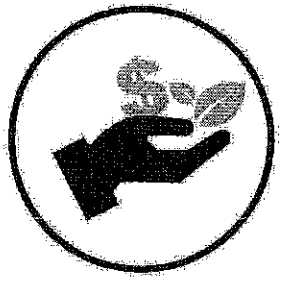
Include representatives from vulnerable communities and intermediary organizations in the policy-making process.

PP-7 **Consider the direct and indirect impacts of projects, policies, and investments on relevant stakeholders.**

Develop processes for regional and/or intergovernmental review, coordination, and harmonization of climate, energy, and resilience projects.

PP-8 **Encourage the general public to engage in civic discourse regarding climate, energy, and resilience issues.**

Create citizen climate advisory boards or green teams to advise local governments.



Regional Economic Resilience

GOAL: *Establish a regional resilience strategy involving elected and business leadership, inclusive of funding mechanisms to guide, incentivize, protect, and promote public and private investments and the economic integrity of the region.*

As climate impacts have become more apparent in Southeast Florida over the past decade, there is a growing awareness that regional collaborative efforts must expand to include a greater degree of collaboration between governments and the private sector to protect the region's economy. Proactive efforts to address climate change—both in building resilience and reducing emissions—represent specific economic development opportunities for the region. Protecting regional prosperity is an equal and integrated goal with protecting natural resources; infrastructure; and quality of life for all who live, work, and play in Southeast Florida.

These recommendations provide a blueprint for how local governments and the economic development community can work together to ensure individual businesses can continue to operate during weather extremes, use their collective expertise to build the business case for resilience investments across Southeast Florida, and use their collective voice to advocate for appropriate investments in the region by state and federal government.

ER-1 Establish a regional economic resilience communications strategy.

Establish a partnership among business, government, and community leadership to support and deliver a coordinated communications strategy designed to educate and engage the entire community on climate challenges and regional needs as an economic imperative and opportunity.

ER-2 Advance regional resilience infrastructure standards.

Convene municipal, county, and regional agencies and governments to identify critical infrastructure systems and determine a necessary standard for investing in resilience measures based on climate risks.

Advance and promote a Southeast Florida resilience strategy that includes regionally coordinated resilience standards as the basis for planning, development, and infrastructure investments to proactively address flood risk associated with sea level rise and predicted changes in coastal water levels, groundwater tables, flood elevations, and storm surge.

ER-3 Seek federal and state engagement to develop a resilience strategy.

Determine the economic impact of water management and potential climate impacts on critical elements of the Florida economy, including agriculture, tourism, and marine industries.

Coordinate a regional request by business and elected leadership for the federal government, the U.S. Army Corps of Engineers, and the South Florida Water Management District to undertake a comprehensive study and develop a resilience strategy. The strategy should address service levels of the Central and South Florida Flood Control System under current and future conditions, and be inclusive of inland and coastal reaches.

ER-4 Pursue the development of regional water models.

Engage the South Florida Water Management District and other water officials in the development and update of regional water management models to account for future climate conditions.

Guide planning and investments for future flood and climate conditions based on regional water management models, including anticipated adjustments to water management operations, storage, and water supply needs.

ER-5 Integrate resilience and economic development at the regional level.

Create a regional economic development plan focused on regional resilience and organized investment in associated infrastructure, planning, small business economic sustainability, and equitable futures.

Coordinate with the South Florida and Treasure Coast regional planning councils in the development of the region's Comprehensive Economic Development Strategies (CEDS) to increase focus on regional resilience. The CEDS, developed by the councils with input and direction from regional stakeholders, are prepared for the U.S. Department of Commerce Economic Development Administration to guide regional economic activity and attract critical investment to the seven-county Southeast Florida region.

ER-6 Establish funding strategies to provide for equitable investment.

Identify, create, pursue, and establish funding strategies, including foreign and green investments, needed at the regional and local scale to ensure organized and timely investment in the infrastructure improvements that safeguard the public, the region's diverse communities, and shared economies in the face of sea level rise and other climate impacts.

Develop economic analyses in partnership with universities and local government agencies that can be used to quantify and value the impact of resilience investments.

Promote funding strategies in under-resourced communities to establish a more equitable distribution of infrastructure investments across the region.

ER-7 **Engage in the National Flood Insurance Program (NFIP) process.**

Advocate regionally for long-term affordability and sustainability of flood insurance coverage and options within the National Flood Insurance Program (NFIP), and for private insurers that properly credit communities and individual policyholders for investments in resilience.

Encourage maximum participation in the Federal Emergency Management Agency's Community Rating Systems (CRS) program and broaden education of homeowners and businesses on flood proofing, elevation of structures, and open space for water storage.

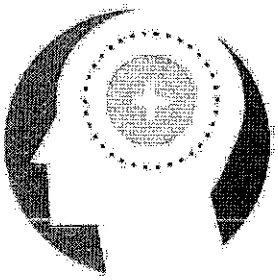
ER-8 **Serve as a model for regional resilience.**

Establish Southeast Florida as the epicenter of innovation, affordable clean energy, and resilient design, with the integration and promotion of renewable energy and green technologies as part of local economic development strategies, infrastructure improvements, training, and community design.

Support small, locally-owned businesses when employing emergency services funding.

ER-9 **Strive for equity in adaptation planning.**

Work with community groups to fund and commission a credible third-party study assessing the risk and extent of climate gentrification, and possible solutions.



Risk Reduction and Emergency Management

GOAL: *Prepare for the inevitable shocks and stresses experienced in Southeast Florida through coordinated and interdisciplinary risk reduction and emergency management planning and investment.*

Extreme weather events—namely hurricanes— punctuate the modern history of Southeast Florida's settlement and development. From the development-disrupting Great Miami Hurricane of 1926 and the railroad-destroying 1935 Labor Day hurricane to the significant storms of modern Southeast Florida history—Andrew, Wilma, and Irma—hurricanes have shaped the region into what it is today and made Southeast Florida a leader in local emergency response.

However, climate change will continue to expose the region to more frequent and severe weather events. Future hurricanes will likely be much larger, pack greater amounts of potential precipitation, and be more intense than the storms of the past. The region will experience greater extremes in drought and intense rainfall events, and average temperatures are expected to increase, creating the potential for longer and hotter heatwaves. Accordingly, climate resilience efforts must be integrated into and deeply inform emergency management efforts.

These recommendations draw on the region's expertise in preparing for and responding to weather extremes to keep the region at the forefront of excellence.

RR-1 Identify and quantify infrastructure and populations at risk to sea level rise and storm surge.

Perform local vulnerability analyses to identify and quantify infrastructure and populations at risk under various sea level rise scenarios and other climate change scenarios.

Use the best available data, models, and resources, including the Compact's Unified Sea Level Rise Projection, to inform planning, prioritizing, and annual funding.

RR-2 Integrate climate scenarios into emergency planning, evacuation training, and exercises.

Identify all climate risks, including but not limited to storm surge, that could cause evacuation in the future.

Develop climate scenarios for climate risks that require evacuation planning by partnering with the community to identify local factors, including geographic and social aspects of vulnerability.

Integrate climate scenarios into evacuation preparation, including planning, training, and exercises.

RR-3 **Integrate climate vulnerability analysis data, as well as climate adaptation planning and funding, into existing emergency planning and funding documents.**

Integrate climate vulnerability analyses into local mitigation strategies and threat and hazard identification and risk assessment tools.

RR-4 **Create and invest in strategic pre-disaster plans for post-disaster recovery.**

Create a pre-disaster plan that includes neighborhood, business, and government for accelerated recovery and resilience. These strategic plans should cover critical infrastructure systems, land use, housing, economic development, and public health.

RR-5 **Identify the most advanced insurance coverage models to reduce exposure in the face of climate-related risks.**

Identify current methods of insurance for climate-related risks employed by local government in other regions, such as catastrophe bonds.

Assess the applicability of existing insurance methods in the Southeast Florida context, including identifying the potential insuring institution.

RR-6 **Prioritize adaptation investments to reduce the impact of flooding and sea level rise on transportation infrastructure, particularly on evacuation routes.**

Identify vulnerable roadways and bridges using the Florida Department of Transportation Sea Level Scenario Sketch Planning Tool.

Determine the current resilience of evacuation routes by mapping them against projected climate impacts, and redesign any evacuation routes that are threatened by potential climate impacts.

Integrate climate adaptation into the standards for designing transportation infrastructure.

RR-7 **Ensure local comprehensive plans align with the state Coastal Construction Control Line.**

Build goals, objectives, and policies related to coastal high hazard area designations for the highest protection possible.

Support the Florida Department of Environmental Protection's efforts to enforce the Coastal Construction Control Line program and to educate the general public about its importance.

Evaluate special flood hazard areas periodically against water level data.

RR-8 **Continue to adopt and update consistent plans at all levels of government in the region that address and integrate mitigation, sea level rise, and climate change adaptation.**

Ensure consistency among:

a) Strategic plans
b) Disaster recovery and redevelopment plans
c) Comprehensive plans
d) Long-range transportation plans
e) Comprehensive emergency management plans
f) Capital improvement plans
g) Economic development plans
h) Local mitigation strategies
i) Climate change action plans or resilience strategies
j) Future land use plans
k) Threat and hazard identification and risk assessments

RR-9 **Review the Florida Building Code through the lens of climate vulnerability.**

Convene a panel of regional representatives from local government and the planning and construction sectors to review the Florida Building Code and assess its current standards that include climate projections.

Develop and adopt recommendations specific to Southeast Florida counties to strengthen the code and the built environment, particularly in regard to flooding hazards.

Develop resilience guidelines and create municipal pilot projects.

RR-10 **Understand and communicate risk information to all residents.**

Understand and distill data on flood risks posed by storm surge, flooding, and king tide sunny day flooding provided by the National Hurricane Center and the Federal Emergency Management Agency.

Communicate risks in an accessible way. Create materials in different languages, including American Sign Language, and disseminate these materials through traditional and social media, as appropriate to the community.

RR-11 **Promote and leverage existing policies and programs designed to reduce flood risks and economic losses.**

Promote resource programs, such as local mitigation strategy activities and the Federal Emergency Management Agency National Flood Insurance Program Community Rating System.

RR-12 Increase long-term community resilience and disaster recovery through distributed renewable energy and battery storage systems.

Provide electric power backup by promoting distributed solar, battery storage, microgrids, and other techniques of distributed production and storage.

Prioritize power at emergency command centers, shelters, senior living centers, and multifamily affordable housing units.

RR-13 Use effective social media for emergency messaging, public health updates, and tidal flooding updates.

Determine the most locally relevant social media platforms and what audiences receive information from them.

Utilize relevant social media to regularly disseminate public emergency messages, such as updates on public health or tidal flooding.

Align all social media messages with existing government notification systems, such as Code Red.

Consider non-internet public communication alternatives due to power outages, such as community boards at public spaces.

RR-14 Encourage individual small business recovery plans and personal home adaptation plans.

Share or develop regional tools and templates for preparing business recovery plans and home adaptation plans.

Develop education sessions for small-business and resident adaptation and recovery plans, potentially delivered at local libraries.

RR-15 Support disaster planning and preparedness training for city and county staff.

Identify existing disaster and preparedness training programs for local government staff in Southeast Florida.

Assess the content and outcome of different training programs, and provide guidance for municipal and county governments to select an effective training program for the local context.

RR-16 Connect with members from highly vulnerable populations to build trust and inform emergency management planning.

Include representatives from vulnerable communities in emergency management decision-making processes.

Work with programs like the Community Emergency Response Team and AmeriCorps, as well as other local groups including faith-based organizations, to serve as ambassadors.

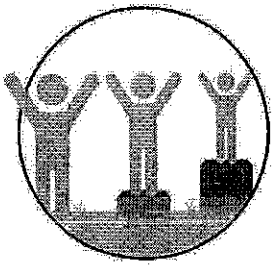
RR-17 Ensure the emergency management definition of "communities at risk" includes economically vulnerable people.

Develop a "communities-at-risk" map of limited-income and socially vulnerable populations, such as the elderly, using census data as well as local knowledge.

Create programs for vulnerable populations—those unable to easily prepare for or recover from an emergency, and those without access to personal transportation—to prepare for and prevent additional impacts, and prepare for and mitigate the need for additional recovery efforts.

RR-18 Align and integrate emergency management staff and responsibilities with chief resilience officer roles to bolster long-term plans.

Understand and communicate the roles of emergency management staff and chief resilience officers, and integrate emergency management into overall community resilience initiatives, and vice versa.



Social Equity

GOAL: *Guide and support municipalities and counties in the Compact region to create equitable climate policies, programs, and decision-making processes that consider local socio-economic and racial inequities and ensure all can participate and prosper.*

As cities and counties across Southeast Florida strive to build a sustainable, resilient, and prosperous region, public policy efforts must produce benefits that are shared by all. The Compact recognizes that climate vulnerabilities are exacerbated by inequities and injustice. RCAP 2.0 seeks to address the socioeconomic challenges to building resilience in high-vulnerability communities, often limited-income communities and/or communities of color.

The Compact shares the Southeast Florida Regional Partnership's definition of equity, as outlined in the Seven50: SE Florida Prosperity Plan:

> ***Equity:*** *Just and fair inclusion. The goals of equity must be to create conditions that allow all individuals and communities to reach their full potential to the benefit of the individual and the larger regional community. An equitable region is one in which all can participate and prosper in their communities and in the regional economy, and where benefits and burdens are shared fairly.*

Within Southeast Florida, individuals, neighborhoods, and communities may experience geographic vulnerability if they have proximity to a current or future hazard (e.g., if they live in a low-lying area prone to flooding or a heat island). These groups have socioeconomic vulnerability if they lack the resources, financial or other, to be able to mitigate the hazard or to move away from it. Many residents within the region's high-vulnerability communities may have also been left behind by recent economic booms, resulting in increased challenges to achieve the financial stability needed to safely weather more intense storms, heat, and floods fueled by climate change.

Equity should be an integral part of policy making at every level of government within Southeast Florida, and should be understood as a policy objective in developing plans, budgets, and in prioritizing and designing climate projects. Historically disadvantaged communities will continue to be the most vulnerable to climate change threats, unless action is taken to create targeted policies and resources. In addition, efforts to create more resilient and sustainable communities, if not designed thoughtfully, can benefit some residents while harming others. The recommendations within this section represent tangible actions that local governments can take in meeting these responsibilities.

EQ-1 Encourage dialogue between elected officials, staff, and socially vulnerable populations about local climate impacts and community priorities to inform leaders of community needs.

Create opportunities for local government administrations to discuss in-person with socially vulnerable populations the unique climate challenges and opportunities present in their community.

Hold meetings that are accessible to the community. Meetings should be:

a) Physically accessible (centrally located and near public transportation)
b) Safe to all members of the community
c) Located in places communities value as gathering spaces (e.g., community centers and cultural centers)
d) Led in, or translated into, the primary language(s) of the community
e) Scheduled at various times to accommodate different schedules

Provide resources or compensation to remove potential barriers for community participation, including:

a) Providing childcare for parents attending
b) Providing food if held in the evening
c) Providing or facilitating transportation

EQ-2 Integrate social vulnerability data into all local government processes.

Identify locally relevant social vulnerability data and planning tools that already exist, including:

a) Florida Institute of Health Innovation reports
b) Center for Disease Control reports
c) Census data
d) U.S. Global Change Research Program Climate and Health Assessment
e) County and municipal data

Review existing social vulnerability data and projected risks due to climate impacts, and apply to local contexts.

Create or amend existing planning documents to ensure sufficient mitigation of local social vulnerabilities exacerbated by climate change. Use social vulnerability data to drive decision making for regulatory frameworks, infrastructure locations, and relocation costs.

EQ-3 Support public infrastructure that enables economic mobility, health, and safety for all community members.

Assess local social vulnerabilities and the public infrastructure or infrastructure design needed to reduce those vulnerabilities long term.

Prioritize investments in infrastructure that enable economic mobility, health, and safety, such as:

a) Accessible public transportation
b) Complete Streets policies
c) Green infrastructure to reduce urban heat effects
d) Affordable housing accessible to transit and other public infrastructure, including schools and community spaces
e) Community recreation spaces

For implementation guidance on specific types of infrastructure, refer to: SP-5; SP-12 SP-14; SP-15; SP-19; EF-4; NS-14

EQ-4 Address the needs of socially vulnerable populations by engaging existing community leaders and representative organizations in decision-making processes, particularly for critical public infrastructure.

Identify and connect with existing community leaders that serve as representatives of their community's needs. Formal or informal community leaders could include:

a) Faith leaders
b) Schools officials
c) Leaders of community organizations
d) Cultural group leaders

Conduct targeted outreach to community leaders when there are opportunities for public input in current decision-making processes.

Create opportunities early in decision-making processes for community leaders to help shape the vision and plan for infrastructure and adaptation projects that affect their community.

Include representatives of socially vulnerable populations in regular comprehensive reviews of critical infrastructure, such as wastewater and stormwater infrastructure, even in the absence of resident complaints.

EQ-5 Build the capacity of existing and future leaders of socially vulnerable populations to ask, analyze, and communicate about their community's climate resilience.

Host trainings or workshops for existing community leaders to access and understand local climate information for their community.

Support community leaders in developing messaging and selecting a medium relevant to their communities by providing access to regional climate communications material.

EQ-6 **Partner with intermediary organizations that have deep community ties with socially vulnerable populations to co-create engagement and outreach strategies.**

Identify and partner with community groups that have demonstrated credibility and social capital in the community.

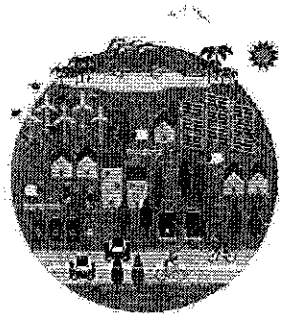
Design materials and tactics for engaging the community in climate issues that can be deployed by trusted partner organizations and that are coordinated with the Compact regional communications strategy.

EQ-7 **Provide equity and social justice training for local government staff.**

Identify existing curricula or training options. If no appropriate training exists, develop curricula for municipal staff on topics such as:

a) How systemic inequity and racism are threat-multipliers for climate change
b) How to design and implement equitable climate solutions through collaboration between community groups and city and county leaders

Ensure all staff receive equity and social justice training.



Sustainable Communities and Transportation

GOAL: *Adapt to the impacts of climate change and reduce greenhouse gas emissions by reshaping where and how to build and move from place to place.*

The Compact's Unified Sea Level Rise Projection and preliminary vulnerability analysis reveal the region's vulnerabilities to the impacts of climate change and inform pathways for immediate action to protect assets and invest wisely. As climate science, monitoring, and modeling continue to be refined, the RCAP integrates the latest climate change considerations into existing and future policy decision-making processes, including municipal and county comprehensive plans and transportation plans. The ultimate goal is to achieve resilience, limit risk, and reduce greenhouse gas emissions.

The recommendations in this section are related to comprehensive planning, including the designation and implementation of adaptation action areas (AAAs), which will direct technical assistance and funding opportunities to areas especially vulnerable to the impacts of sea level rise and associated coastal flooding. In 2011, the Florida Legislature amended state law to create AAAs as an optional designation in local comprehensive plans for those areas experiencing coastal flooding due to extreme high tides, storm surge, and the related impacts of sea level rise. The law also provides for the development of adaptation policies for the purpose of prioritizing funding opportunities. In 2015, the Florida Legislature amended state law to require local governments to include development and redevelopment principles, strategies, and engineering solutions that reduce flood risks and losses within coastal areas into their comprehensive plans.

In addition to comprehensive planning, this section provides recommendations to promote effective engagement of the multiple public- and private-sector entities involved in the provision and maintenance of transportation infrastructure and the delivery of transportation services in the region for climate adaptation and mitigation. Currently, the transportation sector contributes 45% of the region's greenhouse gas emissions. The plan's strategies—such as reducing vehicle miles traveled by shifting trips taken from autos to walking, biking, or public transportation—will work to reduce emissions and realize the cross-cutting benefits of more livable and desirable communities in the region.

To accomplish the goal, current and evolving coordination efforts between transportation and planning entities rely significantly on data sharing and analyses, from studies and tools identifying vulnerable and/or at-risk transportation infrastructure to performance metrics. This section highlights the need for local and regional planning and decision-making processes to ensure a complementary approach to developing and maintaining a system of land use and transportation that is more resilient, while also reducing vehicle miles traveled, providing more transportation choices, and dealing with future uncertainty.

ST-1 **Incorporate unified sea level rise projections, by reference, into all city, county, and regional agency comprehensive plans, transportation and other infrastructure plans, and capital improvement plans.**

Review all local comprehensive, transportation, infrastructure, and capital improvement plans and determine the gaps in planning for projected sea level rise in Southeast Florida.

Record and track timelines for regular plan updates.

Organize targeted advocacy around review timelines for plan amendments to include the unified sea level rise projections.

ST-2 **Ensure locally produced maps for planning and project documents include the latest storm surge and sea level rise projections.**

Develop sea level rise scenario maps and updated storm surge maps based on the Compact's Unified Sea Level Rise Projections and storm surge modeling, such as the National Oceanic and Atmospheric Administration's Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model, to be included in appropriate comprehensive plans and/or regional planning documents.

Use locally produced maps to guide municipal and county government climate adaptation planning efforts related to:

a) The built environment
b) Transportation infrastructure and services
c) Historic and archaeological resources
d) Water management systems and public infrastructure
e) Natural resources

Continue to update local and regional planning maps as more data becomes available and scientific projections are refined. Local governments and organizations should use best available data and tools for land use and other planning.

ST-3 **Use vulnerability and risk assessment analyses and tools to identify priorities for resilience investments.**

Conduct new or utilize existing vulnerability and risk analyses and other technical tools to identify areas requiring adaptation strategy development.

Document, inventory, and share data sources, thresholds, criteria, and models to encourage the use of common approaches to vulnerability analysis and, ultimately, the development of adaptation strategies that will be complementary across infrastructure sectors and result in a cohesive, resilient built environment.

ST-4 **Designate adaptation action areas, restoration areas, and growth areas as a priority-setting tool for vulnerable areas, and as a means to maximize benefits to natural systems while guiding people and commerce to less vulnerable places in the region.**

Use local government authority to designate or otherwise recognize adaptation action areas (AAAs) to identify areas deemed most vulnerable to sea level rise and other climate change impacts (including, but not limited to, extreme high tides, heavy local rain events, and storm surge) and prioritize funding and adaptation planning. Such areas may include:

a) Areas below, at, or near mean higher high water
b) Areas with a hydrological connection to coastal waters
c) Areas designated as evacuation zones for storm surge
d) Other areas impacted by climate-related drainage and/or flood control issues

Designate or otherwise recognize restoration areas in local comprehensive plans and post-disaster redevelopment plans to identify undeveloped areas vulnerable to climate change impacts. These undeveloped areas should be assessed and prioritized to maximize the benefits of natural systems, including:

a) Environmental restoration
b) Dune restoration
c) Beach restoration
d) Agriculture
e) Natural resource conservation
f) Recreational open space
g) Stormwater retention areas

Local governments and appropriate regional planning authorities should prioritize land acquisition in these undeveloped AAAs. This land could also be established or acquired through mitigation or transfer-of-development rights initiatives.

Designate or otherwise recognize growth areas in local comprehensive plans and post-disaster redevelopment plans as areas outside of vulnerable areas where growth is encouraged due to higher topographic elevation and the presence of existing infrastructure, such as transportation, water, and sewer infrastructure. Growth areas should be developed with urban design guidelines that address the character of the urban place and provide a high-quality pedestrian experience through landscaping and the creation of public spaces.

ST-5 **Ensure beneficial social equity outcomes in considering the impacts of land use policy, public infrastructure, and public service decisions on high-vulnerability populations.**

Identify the factors that can impact social and economic equity locally, and create climate policies that build infrastructure to ensure access to critical needs, including:

a) Public transportation
b) Energy efficiency
c) Affordable housing
d) Green space

Draw on recent and relevant social vulnerability data in all planning processes.

Include representatives from vulnerable communities and intermediary organizations in the policy-making process.

ST-6 **Develop localized adaptation strategies for areas of greatest climate-related vulnerability in collaboration with appropriate agencies and jurisdictions to foster multi-jurisdictional solutions and maximize co-benefits.**

Develop policies and capital plans related to climate-related vulnerable areas, including those designated as adaptation action areas (AAAs) to improve resilience to coastal flooding, sea level rise, and other climate-related vulnerabilities.

Identify locations within AAAs or similarly vulnerable areas where targeted infrastructure improvements, new infrastructure, modified land use, and/or development practices could reduce vulnerability and/or improve community resilience.

Coordinate regionally across municipalities and county planning authorities to develop projects and funding proposals seeking prioritized funding for identified infrastructure needs and specific adaptation improvements required in AAAs or other related adaptation planning areas.

Identify populations and communities that are most vulnerable or of special concern within AAAs and similarly vulnerable areas in order to ensure the proper consideration of individual needs and resources as part of local and regional planning activities.

Utilize technical workshops and collaborative design charrettes, such as the Compact's Resilient Redesign, to help develop adaptation strategies, including those focused on living with the water. Include case studies of green (e.g., natural stormwater retention) and grey (e.g., road elevation) solutions that provide information on planning, design, construction, and communication experiences.

ST-7 Incorporate strategies to reduce risk and economic losses associated with sea level rise and flooding into local comprehensive plans, post-disaster redevelopment plans, building codes, and land development regulations.

Incorporate strategies into local comprehensive plans and post-disaster redevelopment plans to discourage new development or post-disaster redevelopment in vulnerable areas in order to reduce future risk and economic losses associated with sea level rise and flooding.

Work with the appropriate local, regional, and state authorities to revise building codes and land development regulations to require vulnerability reduction measures (e.g., additional hardening, higher floor elevations, and the incorporation of natural infrastructure) for increased resilience of all new construction, redevelopment, and infrastructure.

Support community land trusts and cooperatives to increase access to community-owned affordable housing.

ST-8 Consider the adoption of green building standards to guide decision-making and development and to provide an incentive for better location, design, and construction of residential, commercial, and mixed-use developments and redevelopment.

Incorporate sustainable building and neighborhood ratings or national model green building codes, including, but not limited to, those defined in Section 255.253(7) of the Florida Statutes, into municipal codes region-wide.

Update lighting standards to reduce light pollution and promote energy conservation.

ST-9 Implement best practices for the identification, evaluation, and prioritization of threatened resources to preserve historic and archaeological resources and increase resource resilience.

Identify and map at-risk historic and archaeological resources (i.e., resources susceptible to sea level rise and the effects of natural disasters), and continue to update these maps as more data become available and scientific projections are refined. Include the maps in comprehensive plans and/or regional planning documents to guide municipal and county government climate adaptation planning efforts.

Establish a ranking of at-risk regional historic and archaeological resources based on a matrix of vulnerability, historical significance, scientific and economic value, and other criteria as determined by the appropriate historic preservation entities, and prioritize adaptive preservation and mitigation strategies to increase the resilience of resources against sea level rise and natural disasters.

Develop adaptive sustainable preservation strategies, including existing best-practice models available from national and state preservation authorities that are flexible and regularly evaluated and updated, including in-situ and mitigation alternatives.

Utilize available national and state emergency management funding to facilitate the implementation of the above recommendations, and establish local and regional incentives for the pre-disaster hardening of threatened resources.

ST-10 Employ transit-oriented developments and other planning approaches to promote higher-density development capable of supporting more robust transit.

Support effective planning and implementation of transit-oriented developments (TOD) at the local and regional levels—in coordination with the effective planning and provision of transit services and stations—to maximize ridership, economic development, and other desired outcomes.

Consider transit and land use issues at the system, corridor, and station levels, as well as the evaluation of adequate infrastructure such as water and sewer mains, when planning for TOD.

Create and refine station area plans and develop policies to streamline approval processes involving TOD.

Ensure the equitable distribution of the benefits of TOD and premium transit services (i.e., high-quality transit, either rail or bus, that reduces transit travel times, enhances regional connectivity, and provides improved vehicles and transit amenities to attract customers), including through the retention or incorporation of affordable and workforce housing in TODs.

ST-11 Modify local land use plans and ordinances to support compact development patterns, creating more walkable and affordable communities.

Identify both potential changes to future land use maps and comprehensive plans and strategies for transit-oriented developments at the local level (e.g., reduced parking requirements), and address these issues in regional-level plans.

Adopt form-based codes with physical form, the design of buildings and the public realm, and an emphasis on mixed and evolving land uses as organizing principles.

Consider the regional implementation of rapid transit zones or other such designations to maintain land use control around transit stations, including ones with multiple jurisdictions.

ST-12 Develop and implement policies and design standards that recognize the transportation system's most vulnerable users and incorporate sustainable elements.

Collaborate on the implementation of a system of Complete Streets that is context sensitive and safely serves the transportation needs of transportation system users of all ages and abilities, including pedestrians, bicyclists, transit riders, motorists, and freight handlers. Continue to support Complete Streets with policies, guidelines, and funding programs and with advancements in the design of transportation projects.

Catalyze a shift to non-motorized modes of transportation through adopting a goal of fatality-free streets, which recognizes that crashes can be prevented through coordinated engineering, education, evaluation, encouragement, and enforcement solutions.

Incorporate green infrastructure and low-impact development considerations in policy and project design. Ensure projects include urban heat island and/or urban tree canopy considerations to cool cyclists, pedestrians, and other transit system users. Promote consistent incorporation through tools such as the Greenroads Rating System and the Federal Highway Administration Infrastructure Voluntary Evaluation Sustainability Tool.

Require new development and redevelopment to be planned and designed to support and enhance walking, biking, and transit use in areas with existing and planned multimodal corridors connecting employment and other activity centers in the region.

ST-13 Conduct an assessment of unused or underutilized properties and develop an approach for utilizing such properties that enhances overall resilience goals.

Conduct an assessment of existing unused or underutilized properties (e.g., parking garages) and their specific land characteristics.

Design resilience and adaptation projects for underutilized spaces based on the specific capacity of each space. Potential uses of unused spaces could include:

a) Stormwater flow and storage
b) Green space or urban parks
c) Emergency shelters

Prioritize the redevelopment of underutilized properties when siting future resilience and adaptation projects.

ST-14 Adopt social equity policies that support equitable economic growth and increase affordable housing opportunities near critical infrastructure.

Ensure current and future development plans include or expand affordable housing programs, specifically through inclusionary zoning laws.

Incentivize the development of affordable housing within the vicinity of current critical infrastructure, including transportation systems and employment hubs.

Promote the accessibility of affordable housing when improving or creating critical infrastructure designs, including public transportation, schools, and community spaces, through investment incentives or zoning regulations.

ST-15 Develop policies to enhance the urban tree canopy to protect pedestrians and bicyclists from heat and pollution exposure.

Create incentives for developers to maintain and expand existing tree canopy on development sites, specifically areas of community use or with limited tree canopy.

Develop policies that encourage the community to maintain and grow current shade tree canopy, including:

a) Tree giveaway programs
b) Restrictions on tree removal or improper trimming
c) Incentives for home tree planting

ST-16 Phase out septic systems where necessary to protect public health and water quality.

Develop funding mechanisms to help homeowners with the cost of septic-to-sewer conversion.

Mitigate additional inputs to the wastewater systems by encouraging greywater reuse systems in new developments.

Increase capacity for greywater reuse at the municipal level and the use of treatment wetlands to manage additional wastewater.

ST-17 **Ensure investments reduce greenhouse gas (GHG) emissions and increase the resilience of the transportation system to extreme weather and climate impacts.**

Continue to enhance and implement regionally coordinated multimodal transportation planning by metropolitan planning organizations, transit agencies, and local governments. Include goals and objectives in the Southeast Florida Regional Transportation Plan and other transportation plans that reinforce desired greenhouse gas (GHG) emissions reduction and the desired increase in transportation system resilience. Incorporate climate and related performance metrics, such as reduced vehicle miles traveled (VMT) and increased mode split, in transportation plans and programs.

Give higher investment priority to local, state, and federal transportation infrastructure investments, programs, and services that will reduce GHG emissions and increase resilience and adaptability to climate change. Incorporate evaluation criteria and processes to prioritize projects that meet transportation plan goals and objectives, initially emphasizing evaluation criteria that reduce VMT and increase the use of non-auto transportation modes. Projects that enhance economic vitality should also be given priority, such as projects and service expansions along transit-oriented corridors and those that improve connections to major airports and seaports. Utilize data and tools identifying vulnerable and/or at-risk transportation infrastructure and test scenarios as a part of long-range transportation planning processes, such as the Sea Level Scenario Sketch Planning Tool.

Identify and expand electric vehicle charging infrastructure, including at multifamily buildings and commercial and retail centers.

Secure adequate and sustainable funding for transportation facilities and services, including additional dedicated funding for transit operations and maintenance. Rely less on revenue sources based on fuel consumption and more on other funding sources such as sales surtaxes, value capture from development benefitting from transportation investments, mobility fees, and public-private partnerships.

ST-18 Increase the use of transit as a transportation mode for the movement of people in the region.

Continue efforts, such as periodic comprehensive operational analyses, to maximize existing transit services. Increase the amenities and infrastructure available to transit riders, including shade, shelters, benches, and lighting and bicycle racks utilizing solar power where feasible, and increase access to route and real-time boarding information.

Implement seamless regional transit fare and transfer media (traditional or mobile) across transit services in the region.

Improve connections among Tri-Rail and county transit services, municipal trolleys, and community shuttle bus services, which may require a realignment of routes.

Develop and implement planning and other strategies to address the first and last mile of transit trips, which act as barriers for people who could potentially take transit but whose starting point or final destination cannot be conveniently accessed from the nearest transit stop or station due to distance, terrain, street patterns, or safety issues (e.g., traffic or crime). Consider innovative partnerships with transportation network providers, ride-sharing providers, taxis, jitneys, or through the use of autonomous vehicles.

Encourage transit agencies to reduce greenhouse gas emissions by procuring renewable fuel and electric buses.

Plan for and increase transit ridership by providing premium transit services on targeted regional corridors. Maximize access to these services by walking, biking, or taking other transit services in the transit network and by promoting affordable and mixed-income housing in and near station areas.

Maintain or improve the quality of service by continuing to monitor and address safety and performance.

ST-19 Expand, connect, and complete networks of bicycle and pedestrian facilities, including those supporting access to transit.

Prioritize the implementation of planned networks of bicycle and pedestrian facilities that connect people to various destinations and provide recreational opportunities. Improve the overall coordination of local and regional agency planning and implementation efforts.

Use roadway design project checklists that include measures of pedestrian, bicycle, and transit (e.g., bus bay) accommodations.

Consider the regional adoption of transit, pedestrian, and biking programs that improve access to transit.

Develop policies to increase designated bike parking facilities at office and retail developments.

ST-20 Expand the use of transportation demand management strategies to reduce peak period and single-occupant vehicle travel.

Include transportation demand management (TDM) strategies in local government and agency plans, and provide support for existing transportation management initiatives and transportation management associations.

Work with municipal planning organizations, South Florida Commuter Services, South Florida Vanpool, transportation network companies, and others to identify and pursue opportunities to increase use of carpools and vanpools, maximize use of available parking, and promote working remotely and/or telecommuting.

Work with companies and strategic partners (e.g., universities, municipalities, and large employers) to establish or expand car, bike, and personal vehicle sharing programs.

Encourage the use of employee benefits that support walking, biking, and transit modes for work commutes (e.g., pre-tax benefits and emergency ride home programs).

Promote participation in programs encouraging non-single-occupant vehicle (SOV) work commutes (e.g., the South Florida Commuter Challenge) and encouraging local governments to explore the adoption of commute trip reduction ordinances.

ST-21 Address resilience, maximize efficiency, and increase the use of low-carbon transportation modes for the movement of freight in the region.

Incorporate climate adaptation strategies and greenhouse gas (GHG) emission inventories into seaport and airport master plans and county and/or regional freight plans. Plans should address the critical last mile to and from major seaports and airports in part by providing comprehensive plan land use designations, policies, and standards that protect the function of roadway segments connecting seaports and airports (hubs) to corridors (e.g., interstate highways).

Implement strategies designed to improve the efficiency of freight movement as part of the region's comprehensive intelligent transportation systems (ITS) and transportation system management and operations (TSM&O) programs. Strategies include implementing communications applications through a virtual freight network (managed in real time using ITS) which, among other things, can identify available truck parking, schedule appointments for trucks to pick up loads, and provide load matching for shippers and truckers to alleviate "deadheading" of empty trucks traveling back to their destinations.

Establish performance measures (e.g., for GHG emissions) for freight projects and initiatives and monitor performance.

Support the clustering of distribution facilities to promote intermodal centers and economic development.

Explore how to optimize the use of existing rail corridors, and consider new rail corridors to support increased use of rail for the movement of freight.

Enhance approaches to the delivery of goods in urban or downtown areas in collaboration with the freight community, including strategies such as establishing designated routes, using smaller trucks, and establishing loading and unloading zones and times.

Monitor and encourage advances in technology that could improve efficiency and reduce GHG emissions from freight movement (e.g., platooning of connected and/or autonomous trucks and use of unmanned aerial vehicles for deliveries).

ST-22 **Implement transportation system management and operations strategies to maximize the efficiency of the existing transportation system in a coordinated manner across local governments and agencies in the region.**

Develop a toolbox of successful transportation efficiency strategies that can be replicated across the region. Examples of strategies include:

a) Integrated corridor management
b) Use of roundabouts
c) Real-time operation of the traffic signal system
d) Traffic signal prioritization and queue jumps for transit
e) Interstate ramp metering
f) Freight signalization and optimization

Collect and share information on implementation steps, costs, lessons learned, and the effectiveness of strategies in reducing greenhouse gas emissions (e.g., on emissions reduction, fuel reduction, and vehicle miles traveled).

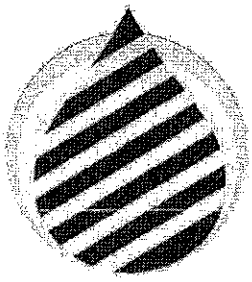
ST-23 **Use evidence-based planning and decision-making for transportation system investments and management.**

Collaborate on the collection and use of transportation-related data with an emphasis on enhancing currently available data or filling data gaps (e.g., on walking and biking trips). Collaborate on performance metrics for transportation facilities and services that are multimodal, address the linkage between transportation and land use, and reflect intergovernmental and interagency coordination.

Research how travel behaviors are influenced by development patterns, emerging technologies such as autonomous vehicles, enhanced multimodal infrastructure and services, and other factors.

Explore and enhance the capabilities of the region's activity-based travel demand forecast model for long-range transportation planning and other purposes (e.g., to simulate trip making and mode choices, test policy alternatives and scenarios, and project greenhouse gas emissions).

Identify and build capacity in the use of additional tools for assessing travel demand from a multimodal perspective, including ones used in conjunction with local government reviews of proposed land use changes and development or redevelopment projects.



Water

GOAL: *Advance the water management strategies and infrastructure improvements needed, in parallel with existing water conservation efforts, to mitigate the potential adverse impacts of climate change and sea level rise on water supplies, water and wastewater infrastructure, and water management systems, inclusive of regional canal networks, pumps, control structures, and operations.*

Water figures prominently in building the future resilience and sustainability of Southeast Florida. Efforts to protect drinking water supplies, prevent water pollution, and manage stormwater must continue within the context of rising sea levels. The recommendations for regional action around water derive from four overarching principles. First, as the regional agency responsible for the operation and maintenance of the Central and South Florida flood control system and the infrastructure changes that affect system performance, the South Florida Water Management District, jointly with local governments, should play a prominent role in a) developing regional and sub-regional models and b) creating a framework to inform local models and ensure coordinated water management planning, system improvements, and resilience investments across the region. Second, resilience requires consistency in the use of current science and technology to support planning, management, and investment decisions across all agencies and the region. Third, resilience planning must address spatial and temporal dimensions, ranging from local to regional perspectives, inland to coastal to barrier island settings, chronic to acute stressors, and short- to long-term impacts. Fourth, regional resilience strategies should be developed with consideration of upstream and downstream consequences, including regional water quality and quantity implications, to avoid unintended effects on neighboring communities.

WS-1 Foster innovation, development, and exchange of ideas for managing water.

Develop and share new water management information, methods, technical capabilities, and trends addressing key climate variability and sea level rise concerns through the Compact's collaborations with state and federal agency partners and academic institutions, as well as through the RCAP.

Establish a method for a periodic exchange of ideas between water resource managers, policymakers, stakeholders, scientists, and researchers in collaboration with the Compact, the South Florida Water Management District, and local academic partners.

WS-2 Ensure consistency in water resource scenarios used for planning.

Ensure all water resource policy, planning, and management decisions in the Lower East Coast Water Supply Planning Area are consistently aligned with:

a) The latest Southeast Florida unified sea level rise projections
b) Regional climate scenarios for planning (e.g., storm surge, design storm events)
c) Hydrologic models used in adaptation planning, from local to regional scales

Ensure all water resource policies consider regional water management issues, including flooding and water variability. For flooding, use impact assessments for observed and predicted climate variability on the frequency, duration, and intensity of flooding connected to sea level rise, extreme tidal excursions, storm surges, 100-year rainfall events. Use impact assessments to determine where impacts will likely be greatest. For water availability, examine the effects of climate change and sea level rise on water availability and groundwater vulnerability to saltwater intrusion, based on potential changes in precipitation and evapotranspiration patterns and associated extreme drought and flood events.

WS-3 Plan for future water supply conditions.

Encourage the South Florida Water Management District to integrate potential future climate conditions, sea level rise scenarios, and potential impacts to water quality and supply into the regional water management models used to support the Lower East Coast Water Supply Plan, environmental resource permitting, and consumptive use permitting.

WS-4 Coordinate saltwater intrusion mapping across Southeast Florida.

Ensure consistency in efforts to map saltwater intrusion across the region to create better information and improve management decisions for protecting regional freshwater aquifers.

Coordinate the methodology and schedule for the saltwater intrusion mapping used to maintain and update the regional saltwater intrusion baseline mapping conducted by the South Florida Water Management District and the U.S. Geological Survey, at a minimum of every five years.

Utilize saltwater intrusion models and validated data to identify wellfields and underground infrastructure at risk of contamination or infiltration by saltwater due to rising sea levels.

WS-5 Maintain regional inventories of water and wastewater infrastructure.

Coordinate among city and county government public works agencies, water utilities, and other operators of water infrastructure to develop and maintain local and regional inventories of existing potable water supply wellfields, treatment and distribution systems, wastewater treatment and collection infrastructure, and septic tanks and drain fields.

Assess the potential for climate change impacts on each component of water infrastructure under different climate change scenarios and develop adaptation strategies for affected systems, including infrastructure that may require replacement, reinforcement, or relocation to ensure the long-term viability of the system.

WS-6 Develop a spatial database of resilience projects for water infrastructure.

Track the climate resilience projects for water infrastructure being designed and built by local governments and utility districts across Southeast Florida to aid local peer learning.

Develop a regionally coordinated geodatabase to illustrate and catalog local and regional resilience projects, planning tools, and infrastructure investments, and a formal data management strategy for water infrastructure projects that could be scaled in the future to include other infrastructure (e.g., communications, transportation, and energy).

WS-7 Modernize infrastructure development standards in the region.

Modernize permitting, planning, and design standards for development and infrastructure improvements to drainage systems, surface water management systems, and finished floor elevations based on updates to groundwater table maps, flood elevation maps, and tidal elevations.

Prioritize design standards that maintain project compatibility, infrastructure connectivity, and level of service under potential future climate conditions.

WS-8 Address the resilience of the regional flood control system.

Coordinate with the South Florida Water Management District and local public officials to request a comprehensive assessment of the Central and South Florida flood control system by the U.S. Army Corps of Engineers.

Determine the regional flood control system's performance under potential future climate conditions based on the U.S. Army Corps of Engineers' comprehensive assessment.

Develop a resilience strategy that will ensure existing levels of service are maintained or improved under future conditions.

WS-9 Update the regional stormwater rule.

Advocate for an update of the Florida Department of Environmental Protection's Stormwater Management Rule, "SFWMD Environmental Resource Permit Applicant's Handbook – Volume II," through the Southeast Florida Regional Climate Collaborative Policy advocacy process.

Advocate for rule changes that integrate potential future climate conditions and stormwater harvesting initiatives in permitting criteria at all levels, including average wet season groundwater elevations; unified sea level rise projections; and intensity, duration, and frequency curves.

WS-10 Integrate combined surface and groundwater impacts into the evaluation of at-risk infrastructure and the prioritization of adaptation improvements.

Continue to utilize a combination of inundation maps and stormwater models to identify areas and infrastructure at increased risk of flooding.

Evaluate the potential impacts of changes in groundwater levels on wastewater and stormwater systems (including septic systems, wastewater collection, and conveyance and storage systems), with consideration of water quantity and quality (including public health-related metrics).

Use the results of the above-stated analyses as the basis for site planning and regulation, and for identifying and prioritizing adaptation needs and strategies.

WS-11 Encourage green infrastructure and alternative strategies.

Promote the development of green infrastructure and alternative, net-zero greenhouse gas emission strategies for water supply, stormwater, and wastewater management focused on achieving a balance between water availability and consumption, limiting energy use to the amount produced on-site via renewable energy, and eliminating solid waste sent to landfills.

Create comprehensive strategies to advance the multiple benefits and sustainability of services provided by net-zero practices.

WS-12 Integrate hydrologic and hydraulic models.

Coordinate across regional, state, and federal agencies to develop and apply appropriate hydrologic and hydraulic models to further evaluate the efficacy of existing water management systems and flood control and drainage infrastructure under variable climate conditions.

Quantify the capacity and interconnectivity of the surface water control network and develop feasible adaptation strategies.

Develop common data standards and database protocol for maintaining water management system components.

WS-13 Practice integrated water management and planning.

Convene forums to promote a joint assessment and planning strategy involving local water utilities, wastewater service providers, water managers, and partners to the Southeast Florida Regional Climate Change Compact for coordinated consideration of:

a) Stormwater use and disposal
b) Rainfall-derived inflow and infiltration
c) Traditional and alternative water supplies
d) Wastewater disposal
e) Expansion of reuse and water conservation measures (e.g., maintaining adequate aquifer levels and minimizing the use of potable water for irrigation purposes)
f) Amendments to applicable development codes and regulations

Develop local integrated water management plans based on joint assessment and planning strategies.

WS-14 Advance comprehensive improvements to regional and local stormwater management practices.

Undertake a comprehensive evaluation of stormwater improvements necessary to expand surface water storage, enhance water quality treatment, and reduce stormwater discharges in the delivery of flood protection needs and environmental priorities for the Everglades and estuarine and coastal ecosystems.

Improve stormwater management through distributed storage, integrated stormwater systems, and additional best management practices.

WS-15 Foster scientific research for improved water resource management.

Encourage collaborative programs with local universities—including the Compact's partnership with the Florida Climate Institute—to improve community and stakeholder communication and education efforts regarding potential local and regional climate change impacts.

Build partnerships and technology exchanges with public, private, academic, domestic, and international partners to bring additional experience and innovation to resilience planning, projects, and decision support.

Continue to encourage, foster, and support collaborative investigative work and scientific research that improves water resource management, including:

a) Downscaling global climate models to represent precipitation patterns at the regional and local scale and to develop standardized precipitation scenarios for the region.

b) Identifying and targeting gaps in monitoring and data availability (e.g., light detection and ranging, environmental and water quality data, or data supporting regional climate indicators) to improve the quantification of the hydrologic system and its response to climate change (e.g., evapotranspiration, surface and groundwater levels, water quality, precipitation, and local sea level) through local program efforts, agency collaborations, and advocacy for additional state and/or federal resources, as needed.

d) Developing integrated risk-based decision-support tools and processes for application in the analysis and selection of infrastructure design, water resource management, natural systems management, and hazard mitigation alternatives. Tools should facilitate the consideration of the potential economic costs of comparative planning scenarios, management decisions, and infrastructure investments, as well as the evaluation of potential trade-offs.

WS-16 Expand partnerships and resources to further innovation in water resource management.

Cultivate partnerships with regional, federal, and state agencies and professional associations with expertise in integrated water resource planning as sources of important research, including:

a) The U.S. Army Corps of Engineers Institute for Water Resources
b) The United States Geological Survey
c) The Environmental Protection Agency
d) The National Oceanic and Atmospheric Administration
e) Water foundations

WS-17 Advance capital projects to achieve resilience in water infrastructure.

Identify, incorporate, and prioritize preferred climate adaptation improvement projects pertaining to water supply, wastewater systems, stormwater management, and flood protection as part of capital improvement plans.

Develop projects, pursue funding options (including independent funding mechanisms), and implement projects.

WS-18 Coordinate innovation and regional funding.

Coordinate the implementation of innovative water management technologies across multiple jurisdictions as part of piloted solutions to foster shared investments.

Facilitate knowledge sharing about the results, costs, and savings from management technologies.

Scale successful cross-jurisdictional technologies to reduce the potential for redundant investments, and achieve economies-of-scale while fairly distributing costs and benefits across multiple project beneficiaries.

WS-19 Recognize adaptable infrastructure.

Identify existing underperforming infrastructure and implement adaptable infrastructure strategies that facilitate targeted investments, allow managed performance, and achieve greater flexibility in system operations.

WS-20 Support the Comprehensive Everglades Restoration Plan (CERP).

Continue to support the Comprehensive Everglades Restoration Plan (CERP) and its updated versions as fundamental to Everglades restoration.

Contribute to the ongoing implementation of CERP and updates to implementation plans (such as the Integrated Delivery Schedule) through the South Florida Ecosystem Restoration Task Force and relevant working groups.

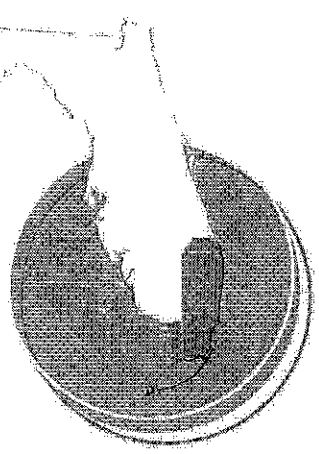
Publicize the role of CERP as a regional climate resilience strategy, particularly as a way to increase freshwater flows to the Everglades system, which improves water quality, maximizes regional freshwater storage and aquifer recharge, and creates the potential to abate saltwater intrusion, an increasingly important effort under variable climate conditions and in the face of sea level rise.

WS-21 Expand regional surface water storage.

Develop new and combine existing land acquisition priorities in a regional setting to protect, preserve, and enhance water storage.

Develop regional and distributed surface water storage (e.g., C-51 reservoir and interconnected urban systems) to increase the potential for stormwater capture and reuse for water supply, aquifer recharge, flood management, and environmental benefits.

SOUTHEAST FLORIDA
REGIONAL COMPACT
CLIMATE CHANGE



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